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ABSTRACT

Presenting a range of occupations with a cross-section of task-analyzed job skills and teaching procedures, this curriculum guide is divided into ten chapters. The first chapter summarizes vocational programming for visually impaired individuals and describes how to use the curriculum. The next three chapters present information on three areas in vocational rehabilitation of visually impaired individuals: (1) prevocational training techniques, (2) competitive employment training, and (3) traditional and alternate methods of vocational evaluation. The remaining chapters present the curriculum itself. It is divided into six vocational subdomains: prevocational skills, clerical occupations, fabrication and repair of musical instruments occupations, horticultural occupations. Subdomains contain the following sections: job description, specific skills, possible job placements, and instructional strategies. The text concludes with an annotated bibliography of selected vocational programming references. (LRA)

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VOCATIONAL CURRICULUM FOR VISUALLY IMPAIRED PERSONS

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PREFACE

This book was written as an outgrowth of our work with the Georgia Academy for the Blind. The text reflects the authors' philosophy that visually impaired persons are capable of successful competitive employment or productive sheltered work.

This book has two major purposes. The primary purpose is to provide a vocational curriculum for the teachers at the Academy. The curriculum presents a range of occupations with a cross-section of task analyzed job skills and teaching procedures. Every effort was made to eliminate sex bias and sex stereotyping in the curriculum. The second purpose of this text is to present information on three important areas in vocational habilitation of visually impaired individuals. These include: 1) prevocational training techniques; 2) competitive employment training, advocacy, and placement techniques; and 3) traditional and alternate methods of vocational evaluation.

The first section of this book is an overview of vocational habilitation of visually impaired individuals. This information provides a basis for understanding how to implement the curriculum. Following the initial four chapters, the curriculum itself is presented. It is divided into six vocational subdomains: prevocational skills, clerical occupations, fabrication and repair of musical instruments occupations, horticulture occupations, service occupations, and trade and industrial occupations.

The text concludes with an annotated bibliography of selected vocational programming references.

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There are a number of people we would like to thank for their help in the preparation of this text. First, the curriculum would not have been written without the support of the Georgia Academy for the Blind. Dr. Richard E. Hyer, Jr., Director of the Academy, had the insight to see the need for such a vocational curriculum project. Dr. Hyer was responsible for initiating the technical assistance agreement with The University of Georgia to produce this book.

The staff at the Academy was instrumental in helping us write the vocational curriculum. The teachers participated in selecting appropriate occupations, task analyzing the specific job skills, and developing the teaching procedures. For their contributions we would like to thank Ms. Rose Adell, Ms. Linda Brightwell, Ms. Vicki Dyer, Mr. David Lurry, Ms. Helen McDaniel, Mr. Worth Mason, Mr. Leon Watson, and Ms. Nancy Westwood. Their names appear on the subdomains on which they worked.

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author while writing Vocational Curriculum for Developmentally Disabled Persons (University Park Press, 1980). The authors are indepted to him for his support.

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CHAPTER ONE

INTRODUCTION TO VOCATIONAL PROGRAMMING

INTRODUCTION TO VOCATIONAL PROGRAMMING

Vocational and occupational education for visually impaired individuals continues to receive attention from state and federal agencies in education, rehabilitation, and labor. This has been demonstrated through numerous grants and funds allocated for direct client service programs, model demonstration projects, research, and personnel preparation. In fact, a recent HEW booklet entitled, Federal Assistance Guide for Vocational and Career Education for the Handicapped[1] lists as many as 24 sources of funds for vocational and career education. Preparing handicapped students for the world of work and rehabilitating disabled adults is clearly a top priority in the United States.

There have been several positive events that have occurred as a result of these funds. First, there are now an increased number of professionals trained in vocational programming for handicapped individuals. More colleges and universities are establishing preservice and inservice training programs in this area. Second, since recent legislation (Vocational Amendment -- 95-482; Public Law 94-142; Comprehensive Developmental Disabilities and Rehabilitation Amendments - 1978) mandates vocational services for all developmentally disabled persons, more disabled clients than ever before are receiving services. Third, research and demonstration projects, too numerous to list here, have provided a wealth of knowledge about the vocational capabilities of handicapped persons. Many of these projects have specialized training techniques, evaluation systems which are increasingly sensitive to the needs of visually impaired clients, and job placement programs which demonstrate competitive employment potential of disabled individuals. Admittedly, we have much to learn in each of these three major areas of vocational programming.

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[1] Bureau of Education of the Handicapped. Federal Assistance Guide for Vocational and Career Education for the Handicapped. U. S. Office of Education: Washington, D. C., 1979.

However, major inroads have been made and replication of selected model programs has begun in many parts of the country.

This chapter has two purposes. The first objective is to summarize our perception of vocational programming for visually impaired individuals as it currently exists. This includes: 1) what we already know and what appears to be in common practice and 2) what we need to know and how we need to improve vocational programming. The second purpose of this chapter is to describe how to use the curriculum. This includes: 1) the rationale for the curriculum, 2) the design and format of the curriculum, and 3) basic procedures for implementing the curriculum.

State of the Art: Current Knowledge

This section will discuss what available research and demonstration projects suggest we currently know about vocational programming for visually impaired individuals. Discussion will center around general training techniques, specific adjustments and prostheses, curriculum concent and job selection, evaluation techniques and placement.

General Training Techniques

The literature is rich with examples of how visually impaired persons can acquire complex skills and perform them at acceptable rates. The following conclusions have been drawn from project and research reports which have investigated vocational training with visually impaired persons. (Some of these projects and research reports are included in the annotated bibliography at the end of the text.)

1. The difficulty of the task should not impede the selection of a job for a trainee. Although, as a general rule, it may take longer to train a lower functioning individual with high rate interfering behaviors. There appears to be very few manual assembly jobs which a physically able visually impaired person cannot do.

2. Detailed breakdown of a task analysis and systematic chaining of components is critical, especially with low functioning visually impaired persons.

3. Size discriminations are easier through matching a very large item with the standard size item. Reinforcement of correct responses will then facilitate a reduced number of errors. Fading the size of the large item until reaching the target discrimination size must be done gradually.

4. Coding items will help visually impaired trainees orient to the salient or most critical parts of a task. For example, one step of a ball point pen assembly task is putting the spring over the top of the metal insert. Coloring the top of this insert will help reduce repeated errors.

5. Massed practice (many trials) may increase the rate that a skill is learned; it may also increase the production rate of workers consistently off-task.

6. Positive reinforcement in the form of verbal praise, trainer proximity, graphs, tokens, pennies, edibles, or adjacent peer attention are positive influences on rate of learning and accelerating production rates. Setting easily obtainable production goals and then gradually increasing the criterion for reinforcement is an effective shaping technique.

Specific Adjustment and Prostheses

The range of adjustments and prostheses that can be employed to facilitate the performance of the visually impaired is wide in terms of types available and complexity of design and operation. The personnel responsible for making decisions regarding the use of modifications need to consider these factors:

a) the nature of the task and the materials required by the task;

b) the nature and degree of sensory input channels the student has available for use;

c) the level of physical and intellectual functioning of the student.

Some visually impaired students, particularly those who are mentally retarded, will be unable to profit from several of the more complex prostheses discussed below. However, the future holds much promise for the development of complex technological devices which will at least partially by-pass or eliminate these student's handicaps (e.g., see Dobelle's work below). Regardless of the student's intellectual capacity, he or she will be helped by some combination of adjustments that can be made in the vocational programming environment. These adjustments have been listed roughly in terms of the complexity and cost.

1. Seating should be arranged to accomodate a particular student's eye condition. That is, care should be taken to bring all important stimuli within visual range.
2. Arrange tables, chairs, and desks so that students do not face the light. Students should not sit in their own shadows.
3. Work surfaces should be adjustable for height and angle and positioned so that the student can bring his work close in and avoid poor posture. Chairs should also be adjustable for height.
4. Students who wear glasses should wear them in situations for which they are prescribed and for prescribed durations.
5. For safety, federal regulation requires that all eye glasses (including sun glasses) be impact resistant. Sturdy, nonflammable frames are recommended.
6. Directions concerning necessary safeguards of a student's residual vision should be followed judiciously. Students with certain types

of degenerative eye conditions may be restricted from excessive jumping, bending, or jarring body contact.

7. Surfaces (including walls, tables, signs, papers, etc.) within the classroom should have non-glossy finishes. All visual stimuli which must be discriminable by the student should be clear and distinct; images should reflect maximum contrast with their background. Varying brightness and saturation of colors is an effective way of doing this.

8. Any printed matter which the student must discriminate (e.g., safety signs, instructions) should be in larger-than-average print. Partially-sighted students often need matter printed (e.g., instruction manuals) in 18 or 24 point type. Signs of course, can and should be much larger.

9. Some students may need frequent eye rest periods to prevent blurring. Vocational planning should take such factors into account.

10. When instruction requires the student to use paper and pencil, slightly rough, unglazed cream manila paper is recommended (Hathaway, 1959). Students should use paper with lines three-fourths to one inch apart. Writing or drawing utensils should include soft lead pencils, grease pencils, or felt-tip markers. Either green or black chalkboards should be used in conjunction with soft, large, white chalk (Hanninen, 1975).

11. The working space required by visually impaired students is greater than that of other workers. Likewise, requirements for storage space to contain unique equipment may be greater.

12. Some visually impaired individuals require less than usual light intensities (e.g., pathologies such as albinism) and other require more than normal light intensities. The Joint Committee of the American Health Association and the National Society for the Prevention of

Blindness (1972) has published principles which should govern lighting design. These should be followed, but individual needs mandate alternatives in specific instances. For example, some students can profit from high intensity lamps placed on their work space.

13. The use of cut-aways and mockups (frequently larger than life-size) help the visually impaired student to grasp the materials he is learning to work with. When learning to work on more complex tasks such as small engines, these modifications are essential.

14. Dymo tape (using normal orthography or braille) are useful in labeling tools, parts, and other equipment such as rulers, wrenches and feeler guages. The raised characters are often indispensable as an aid to identification tasks.

15. Since it is important for all materials to have a specified location, several modifications may be necessary. Tools can be placed on a wall pegboard with an outline of each tool painted on the pegboard. Racks made from wood or styrofoam into which tools exactly fit are also useful. Storage boxes which can be used to compartmentalize items (pencils, brushes, nuts, bolts, nails, etc.) also facilitate location of important objects. When taking apart machines, sorting parts, etc. the use of metal cupcake trays make the job much easier.

16. The instructor should provide individual attention and feedback on most occasions; however, when that is not possible, partially-sighted students can be placed with totally blind individuals to complete the work.

17.. For some tasks, jigs or bolt holes are useful to hold in place the component being worked on by the student. This allows the student to concentrate on what he is doing and not on holding the component in correct position.

18. To overcome the difficulty incumbent on the visually impaired when parts fall or roll off of desks or work benches, these adjustments can help:
    a) provide work tables which have a shallow well in the middle to collect pieces;
    b) use a magnetic table top to retain metal pieces;
    c) provide an apron on the table to catch fallen pieces.
19. To prevent misalignment of parts while working on them, parts can be pinned, glued, or held together by a small dab of grease (depending on the kind of material being worked on).
20. When preparing to cut materials like metal or wood, cutting lines can be scribed deeply to allow the student to feel the line with his fingers.
21. During early instruction on cutting with scissors and later with metal snips, perforated paper and sheet metal are useful in guiding cuts.
22. Raised line drawings help the visually impaired to understand what the material will look like after it is cut.
23. Tools should be provided at each work center even though they may overlap with other work centers; this makes the return of tools more efficient.
24. Materials that are purchased and used on the basis of their color (e.g., thread, wire) should be placed in a color code order and labeled with dymo tape for easy selection by the student.
25. Whenever lights are used as signals (machine is in operation, fire alarm, exit signs), they should be replaced with auditory signals or, in some cases, lights that generate enough heat to feel.

26. Students should practice emergency shut-off of machine tools and the instructor should periodically simulate emergency conditions to check the student's reactions.

27. Safety zones can be marked with abrasive tape (3-M tape or Ferrox) on the floor.

28. "Shorts" (wood scraps, metal, etc.) should be retrieved and placed in a scrap box following each work assignment to prevent safety hazards.

29. When counting is an essential part of the task, visually impaired students can be trained to use an abacus effectively. An abacus can be modified to prevent the beads from sliding from their desired position accidentally.

30. Cassette tapes can be prepared that allow the student to review important instructions or steps in a sequence at his leisure. These should not be used for basic instruction, but as aids for reviewing material, likewise, records and talking books, which are more expensive and more general in their use, can be used.

31. Several optical aids are available ranging in price from minor to very expensive:
    a) the loupe -- this is an ordinary convex lens used as a hand magnifying glass;
    b) spectacle magnifiers -- ordinary glasses fitted to give one or both eyes a closer focus;
    c) telescopic aids -- an appliance that can clip over the lens of an ordinary eye glass;
    d) high plus lenses -- these are the most common optical aids, allowing great magnification;

e) projection enlargers — used in the classroom to magnify opaque material by projection.

32. A recent improvement in the basic mobility prosthesis for the blind (i.e., the cane) is the laser cane. It warns the individual with auditory and tactile signals of drop-offs (such as curbs or staircases), obstacles directly ahead, and low-hanging branches, awnings, or signs. If the individual is proficient with the ordinary long cane, he or she can learn to use the laser cane within two weeks after 30-40 hours of instruction. Since it is expensive (about $2,000 in 1977), The Mobility Foundation of North Wales, Pa., has been formed to provide laser canes to those who need, but cannot afford them (Special Learning Corporation, 1978).

33. The Optacon, a device about the size of a portable tape recorder, allows blind individuals to read material directly from the original source, avoiding the necessity of talking books, professional readers, or braille. The original form prevents nonreaders from using it and the top reading speed of 80 to 90 words per minutes also limits its utility. However, a talking version is now being developed and is expected to be marketed within the next three years. The new machine will increase reading speeds to 200 words per minute. Kurzweil Computer Products of Cambridge, Mass. has already produced a unit which accomplishes the same result as the new Optacon -- the Perkins School for the Blind has tested it with promising results. However, with a purchase price of $50,000, it will be some years before the device is in wide use.

34. The makers of Optacon have introduced a talking calculator which tells the user every key he presses as well as the result of the calculation. Called Speech Plus, the calculator costs $395, making it within the budget of many programs for the visually impaired.

35. Dr. Paul Bachy-Rita and his associates at the Smith-Kettlewell Institute of the Visual Sciences in San Francisco are developing a Tactile Vision Substitution System (TVSS). Images are picked up by a small television camera mounted on eye glass frames. The images are transmitted to an elastic girdle fitted over the abdomen. The girdle is equiped with over 1,000 electrodes that transmit vibrations to the wearer's skin in the form of the original images. In effect, the individual's skin feels what his or her eyes would ordinarily see. Tests of the TVSS have been very promising.

36. Field Expander Glasses, designed by the staff at the National Institute for Rehabilitation Engineering (NIRE), can restore full field vision to those suffering from retinitis pigmentosa (resulting in tunnel vision) and those who are blind in one eye due to accident or stroke. By shifting his or her focus from the regular lens to the field expander, such an individual can see a full 180 degrees.

37. The most astounding breakthrough may come from the work of Dr. William Dobelle at the University of Utah's institute for Biomedical Engineering. His system would stimulate actual brain centers to allow blind individuals to see. One experimental subject, fitted with electrodes planted directly on the visual centers in the brain, was able to read braille images five times faster than with his fingertips. In theory, a small television camera could be implanted into an eye socket, transmitting visual images to the cortex, allowing blind people to see and read.

Curriculum Content and Job Selection

It is necessary that visually impaired students acquire generalized work skills. That is, learning only one, two, or three jobs is not ideal for a couple of reasons. First, the type of employment available will depend directly on economic conditions of the local area as well as the type of industry. Having skill in several kinds of jobs, e.g., service or clerical, will make the individual more marketable. Secondly, if the student learns how to respond in a variety of job situations and, more importantly, that all jobs require certain behaviors, e.g., to be on time, stay on-task, the likelihood of long-term employment and advancement will be enhanced.

Job selection should be a result of several factors. These include the individual's preference, home living situation, financial situation, and individual physical, social, and intellectual capabilities. The selection process also depends on a careful analysis of the requirements of the work environment.

It would appear that we know the following in this area:

1. Vocational curriculum must be functional and multifaceted. Skills must have utility in other areas of instruction. For example, teaching the horticulture skills of plant care will also be functional for leisure skills education.
2. Students will learn best if presented skills in the different subdomains which are consistent with their functioning level. The prevocational skills in the curriculum will facilitate this assessment.
3. Job selection must be based on a detailed analysis of work environments similar to the job analysis done by Belmore and Brown (1977) of a dishwasher position.

Vocational Evaluation

Traditional testing measures have characterized the evaluation of visually impaired clients by rehabilitation specialists. The merits and limitations of these evaluation systems are discussed in depth in chapter four. However, there are two points which are evident in the assessment/evaluation process with visually impaired individuals. These include:

1. There is virtually no test which can demonstrate the work potential of a handicapped student as well as a continuous and direct measurement of performance during training. That is, many trainees, will show their abilities only after initial training under optimal reinforcement conditions.
2. Behavioral assessment measures provide more objective data on rate of learning, i.e., recording number of trials to criterion for each step in a task analysis, and performance rate over time. Charting and graphing of work behavior often reveals trainee improvement especially when data are recorded daily.

Placement

Job placement requires much further attention by teachers, counselors, and other vocational practitioners who work with the visually impaired. Competitive employment placement of visually impaired individuals is difficult and in many communities almost nonexistent. However, competitive employment placement is an excellent vocational goal to strive toward because of the potential for greater remuneration and integration with nonhandicapped co-workers.

Unfortunately there is not a large amount of research literature relevant to the long-term competitive employment of visually impaired workers, especially those with moderate and severe retardation. There have been some good demonstration projects in Washington, Illinois, Nebraska, and Virginia, however, and the following conclusions can be made partly on the basis of results from these projects:

1. Independent living skills and success in competitive employment cannot be separated. The inability to perform the former adequately leads to problems in acquiring and maintaining a job in the community (Schalock & Harper, 1978).
2. Client advocacy plays a critical role in persuading employers to provide administrative support for job training programs and placement efforts (Wehman & Hill, 1979).
3. Certain vocational subdomains such as service and horticulture are good initial job areas for visually impaired individuals to begin work. As a good work record is developed and maintained, other more advanced jobs may be considered.
4. The intial two weeks to three months of employment will be the most difficult for visually impaired workers. The adjustment process from unemployment to a full 40-hour work week for a visually impaired adult usually requires special support from employers or a counselor that is regularly available.
5. There appears to be a substantial number of visually impaired persons who have been excluded from rehabilitative services and who, with training and advocacy, could succeed in sheltered and/or competitive employment.

The points listed above are not meant to oversimplify the state of knowledge currently available about vocational habilitation. Clearly, there is other information which is also important. However, we view these points as salient in vocational habilitation of the visually impaired.

State of the Art: What We Need to Know

Training Techniques and Specific Adjustments

The most important knowledge lacking about training techniques concerns supervision and management strategies. Some of this information involves issues of specific training technology. For example, questions about the efficiency of supervisor management strategies and environmental arrangements must be resolved. Consider the points below.

1. Improving production rates to standard is always a goal of any industrial unit. Although reinforcement is certainly a demonstrated means of increasing work rates, what is not clear is the most efficient way for a supervisor and an aide to maintain a standard performance rate. Pairing high and low rate workers, refining the development of client-administered reinforcement, room arrangement, and goal setting are among the strategies which merit closer attention.
2. Many practitioners are unclear as to the efficiency of forward versus backward chaining. The former technique involves repeated practice on the initial step(s) in the task analysis with guidance on the remainer of steps. Researchers must investigate which of these training techniques is most efficient.
3. Establishing sheltered enclaves within private sector factories and industry is another service delivery model which requires further attention. Training techniques similar to those listed above can also be used in a less restrictive setting. This is a laudable goal

yet can only be attained when point 1, that of increased production rates, becomes a reality with most visually impaired workers.

Curriculum Content and Job Selection

Systematic analysis of the job environment and of the student abilities is critical to making an appropriate match. The need for increased numbers of vocational skills to be generated for instructional purposes is probably not as important as determining which student should be matched with what job and with what employer. The following areas need further attention.

1. Job requirements need to be specified behaviorally across a variety of jobs. All aspects of a job including unique features of the work environment must be described. Belmore and Brown (1978) have provided this type of indepth inventory for a dishwasher position in a drugstore. This analysis needs to be made available for many more jobs.
2. With this information, teachers must be taught to write instructional objectives and program for skills which are consistent with these inventories. _One of the most inefficient uses of instructional time is skill development in areas where no jobs exist in the community._
3. Field testing and empirical validation of vocational skill sequences, in many more occupations than are listed in this text, are is required. Furthermore, a careful analysis of the behaviors required in different vocational areas must be undertaken. This will facilitate logical ordering of skills from easy to more difficult.

4. More attention must be given to the development and maintenance of critical nonvocational social behaviors such as job interviewing, telling time, using public transportation, use of a telephone, operating a vending machine, and so on. Although isolated examples of these programs are available, few have been performed in the (natural) community environments (i.e., outside of a classroom or center). Independent living skills curricula must also be developed.

Vocational Evaluation

The initial assessment and on-going evaluation of client progress is a continual issue which must be addressed. Service agencies are "under the gun" to demonstrate the value of their work; improving the employability of visually impaired individuals is a major step in the appropriate direction. In the earlier section on vocational evaluation it was noted that continuous data collection provides more information of the success of a client. Listed below are areas in need of further investigation:

1. The relationship between vocational rehabilitation counselors, vocational educators, and special educators in conducting vocational evaluation needs to be refined. Systematic ways to establish cooperative and complimentary roles need to be investigated. The U.S. Office of Education and the Rehabilitation Services Administration have an interagency agreement to implement such cooperative efforts, however; how to effectively and efficiently get the job done at the local level remains to be determined (Razeghi and Davis, 1979).

2. The validity and reliability of traditional vocational evaluation tests with visually impaired clients need to be determined. For example, most commercial laboratory work samples have not been standardized on this population. This lack of standardization greatly minimizes the usefulness of these evaluation devices with visually impaired clients.

Placement

Job placement and postemployment follow-up of visually impaired persons is a current priority in vocational rehabilitation. This is supported in other programs, e.g., CETA, which also stress employment of handicapped individuals as an important goal. There are several milestones, however, which we must work toward. These include:

1. Identifying in more detail, and not only through mail survey, the characteristics of employers willing to have visually impaired individuals; this also includes developing strategies to overcome employer reluctance to have "too many" disabled workers even though the client may be doing an excellent job.
2. Identifying which types of businesses and organizations are best for employment of visually impaired persons; this also involves investigating the optimal characteristics of co-workers for a supportive work environment, i.e., similar or different race, sex, age, previous disability. We suspect that this is a major factor because of the inclination of positively-biased coworkers to "cover" for disabled workers.
3. Identifying which family support systems, e.g., group home, single parent family, require the most post-employment follow-up and counseling.

4. The advancement of visually impaired workers, currently employed, into more challenging jobs. There are many visually impaired individuals who are underemployed and should receive greater job opportunities.

5. Development of professional and/or advocacy support systems for visually impaired workers who initially are placed into competitive employment. With the tremendous caseload which most rehabilitation counselors carry, it would appear that other agencies would have to help shoulder this burden. However, our experience suggests that without this type of initial support many visually impaired individuals will be unable to maintain their job in competitive employment.

Rationale for the Vocational Curriculum

Effective vocational training must emphasize job skill development and adjustment. One requirement to facilitate this training is a reasonably comprehensive vocational curriculum, one that reflects many of the jobs and skills which the student may have to perform after leaving school. The scope of vocational subdomains provided in this curriculum will hopefully begin to meet this need.

This vocational curriculum is desgined for visually impaired students. It can be used in several ways. One, it can be employed as a behavioral checklist to determine the number and proficiency of job skills a student has learned. This assessment function is a necessary starting point for beginning a vocational program; furthermore, these data will be helpful in writing an individualized education program (IEP) for each student.

Second, the scope and sequence of the curriculum will hopefully make it easier to select jobs which are commensurate with a student's given functioning level. The detailed analysis of each specific job skill will facilitate teaching each job.

Finally, this curriculum, if used and expanded over a period of time, can serve as a criterion-referenced evaluative tool for the student and the program itself. As a student acquires independence in one job, he can be moved into new jobs. Over several years, the quality of instruction and the student's work potential will be reflected by the progress made in the vocational curriculum.

Design and Format of the Curriculum

Six vocational subdomains were selected for development. They include: prevocational skills, clerical occupations, fabrication and repair of musical instruments occupations, horticulture occupations, service occupations, and trade and industrial occupations. The job training programs within these subdomains were designed to eliminate sex bias and sex sterotyping.

The prevocational subdomain, which includes general work habits and contract work, is presented first. The skills in this subdomain are prerequisite behaviors for entering all specific job training programs.

No hierarchical order was established for the five remaining subdomains. They are presented in alphabetical order. Each of these five vocational subdomains has at least two specific job training programs. For example, the clerical subdomain analyzes the occupations of general office clerk and medical transcribing machine operator. The curriculum has been designed to allow the Academy staff to add more job training programs to each subdomain.

Each of the job training programs, e.g. general office clerk, contains the following sections: job description, specific skills, possible job placements, and instructional strategies. The job description is based on the Dictionary of Occupational Titles published by the U.S. Department of Labor. The job description lists all possible jobs that an employee might be asked to do. The specific skills section lists the actual job skills that are taught at the Academy. The possible job placement section documents placements for training and employment. Unless noted otherwise, these placements are in Macon. The last section of the job training program describes the instructional strategies. This includes an instructional objective, task analysis, and detailed teaching procedures for at least three specific job skills. The Academy staff will add instructional strategies for additional specific jobs skills as the curriculum is implemented.

Implementing the Curriculum

Chapters two, three, and four present detailed information on how to implement the curriculum. These chapters should be read carefully. In brief, the curriculum can be used for assessment and instruction. An overview of these two uses are presented below.

Assessment

This curriculum may be employed as a tool for assessing vocational skill competencies of visually impaired students. Although not comprehensive, it provides a representative sample of job skills across the vocational spectrum. The innovative teacher can arrange these skills into a behavior checklist format in which one of two types of responses can be made:

a. A simple yes-no indication of the individual's proficiency in the skill; this would provide a screening of which skills might be selected for instruction.

b. A more detailed indication of the individual's level of proficiency with different job skills; this could reflect a format such as
   1. does skill independently,
   2. does skill but needs verbal cue,
   3. does skill but needs model or demonstration, or
   4. needs physical assistance to perform skill.

Table 1-1 is a data sheet that could be used to collect such assessment information.

Insert Table 1-1 About Here

Instruction

There is a sequence of instructional activities that the teacher should follow in teaching the specific job skills. Chapters two and three present this critical information in detail. A brief outline of of this sequence is presented below.

Step 1. Review the curriculum carefully. Study each domain and the jobs within each domain.

Step 2. Select jobs which appear to be commensurate with the student's ability and interests. This selection process should be keyed by the individual's competency on prerequisite skills. If possible, have the student become involved in selection of the skill(s) for instruction.

Step 3. Establish that the instructional objective is relevant for the individual.

Step 4. Task analyze the skill into smaller components depending on the functioning level of the individual.

Step 5. Implement instructional procedures and materials necessary to teach skill. Remember that each student is different and may respond to different types and amount of reinforcement and teaching strategies.

Step 6. Plan for transfer of training so that student will generalize skill across materials, persons, and environments. This can be best done by having the student overlearn the skill and perform the skill in the work environment that he/she will eventually be placed.

Step 7. Review progress of student regularly. Select the next job skill and repeat sequence.

Using this program sequence, teachers and other participants can help visually impaired individuals of all ages learn a repertoire of vocational skills.

The Next Step

A final work is in order. Although this vocational curriculum provides an important beginning toward programming job skills, it is obviously only the first step. It will be important in the future to:

a) expand the range of occupations within the vocational subdomains;

b) continue field testing with each new task analysis;

c) write instructional objectives and task analyses for each skill;

d) write teaching procedures and adopt activities for each skill; teaching procedures should be empirically verified in the classroom.

Hopefully, this curriculum will stimulate more sophisticated program development in vocational education. For the reader who is interest in literature pertaining to vocational training for the visually impaired an annotated bibliography follows chapter ten.

Table 1-1

Data Sheet

Student:

Starting Date:

Skill:

Verbal Cue: ____

TA Steps	M	T	W	TH	F	M	T	W	TH	F
1.										
2.										
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40.										

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CHAPTER TWO

DEVELOPMENT AND IMPLEMENTATION OF A PREVOCATIONAL PROGRAM

DEVELOPMENT AND IMPLEMENTATION OF A PREVOCATIONAL PROGRAM

Like other handicapped individuals, the visually impaired must achieve basic prevocational skills in order to enter and successfully complete job training programs. Otherwise, sheltered work will become the terminal vocational placement. It is increasingly clear that even multiply handicapped visually impaired individuals are capable of acquiring prevocational skills (McDade, 1970).

Research evidence indicates the developmentally disabled clients (including the multiply handicapped visually impaired) can be effective workers on complex manual tasks (Bellamy, Peterson, and Close, 1975; Gold, 1976; Gold and Barclay, 1973). Several researchers have investigated the viability of presenting severely handicapped workers with complex tasks such as putting together a drill machine (Crosson, 1969), or bicycle brakes (Gold, 1976). In the 1969 Crosson study, a 16-step task analysis was used to teach severely retarded adolescents how to put a drill machine together. With a task analysis approach a behavior is divided into smaller increments and presented in a logical sequential chain. Difficult learning discriminations are made easier as positive reinforcement is delivered for successful responses. Brown and his associatives have also used a task analysis approach successfully in studying the effects which different reinforcement contingencies have on rate of production with moderately and severely retarded adolescents (Brown, Bellamy, Perlmutter, Sackowitz, and Sontag, 1972; Brown, Perlmutter, Van Deventer, Jones, and Sontag, 1972).

Gold provided a series of research studies demonstrating the effectiveness of moderately to severely retarded clients on complex work tasks (1973 a). Through the use of errorless learning, or easy-to-hard discriminations, moderately to severely retarded adults were trained to put together a 15-piece bicycle brake (Gold, 1972). In the same report, subjects demonstrated successful transfer of training by putting together a 24-piece bicycle brake. A one-year follow-up study indicated significant retention effects by clients.

Through use of an easy-to-hard method of errorless learning, it was also shown that moderately to severely retarded clients were able to make discriminations between different bolt lengths as fine as one-eighth of an inch (Gold and Barclay, 1973; Irvin, 1976). Gold (1973b) also reports the successful performance of 20 moderate to severely retarded clients in putting together a 14-piece coaster brake. An important finding of this study was a non-significant statistical relationship between IQ and production rates of clients participating in the program. This is in direct conflict with earlier reports which supported the notion of higher IQ's leading to greater production rates in severely retarded clients (Tobias and Gorelick, 1973).

Factors to Consider in Prevocational Program Development

Physical Setting

Location is a critical factor in the successful implementation of a program. Basements and storage rooms are not acceptable sites for a prevocational program since they are not normal work sites. This type of setting can lead to a serious decline of staff and client morale.

The ideal work location is one based in the community that is well lighted and with ample space and ventilation. There should be a breakroom and restrooms should have necessary supports for visually impaired clients.

Task Selection

Identification of the appropriate tasks in the prevocational program is also important. The following considerations are necessary:

--Is the task simple or complex?

--Does the task require fine motor or gross motor skills?

--Are raw materials expensive or inexpensive?

--Is the task arts and crafts, "make-work," or contract work?

The issue of "make work," contract work, or arts and crafts is one which is a continual problem when initiating a prevocational program. Contract work which results in pay may be ideal for clients in an all day workshop; on the other hand, some school programs may find it more advisable to use "make work" tasks which provide some opportunity for work training along with self-care, language, and social skill instruction. The biggest problem with simulated work is that staff and clients frequently find it too artificial and lose interest in the program. Also, taking apart of a completed job may be time consuming and demoralizing.

Teacher Behaviors

In addition to the physical location and tasks which comprise the curriculum, teacher and trainee behaviors will influence the success of the program. Teacher behaviors include the type of instructions provided, frequency and amount of prompts and reinforcers, use of prosthetic devices (e.g., jigs), special coding of parts, and task analysis, i.e., the logical analysis of a skill into small, sequential steps. Because teacher behavior and arrangement of the work environment is so important, a later section of this chapter, Instructional Techniques, discusses training strategies in more detail.

Trainee Behaviors

Client work behavior may be subdivided into learning a skill (acquisition), and then performing it accurately at a high enough rate (production) to meet competitive employment production standards. These two areas can be analyzed more closely, however, through a more specific description of an individual's behavior as it relates to performance.

Acquisition Problem-Discrimination Deficits. A typical problem found among many visually impaired prevocational students is a failure to attend to the salient cues (e.g., size, form) of a task. Relevant variables are ignored and instead the person may try to assemble or sort materials without attending to what he does or attending to the wrong cue in the task. This is a main obstacle for the visually impaired prevocational student acquiring complex manual skills. Gold (1976) has found that the visually impaired retarded can master a difficult job when they attend to relevant dimensions.

Acquisition can also be impeded through a client's failure to attend to verbal cues of the supervisor. A common characteristic of visually impaired prevocational students is noncompliant behavior and inability or unwillingness to follow simple instructions. Even though a worker may attend to the learning task, if he or she does not follow instructions, this can interfere with acquisition rates. This is particularly true if job requirements or materials vary slightly from day to day.

Acquisition Problem-Sensory Motor Deficits. Visually impaired persons recieving prevocational programming services display sensory-motor deficits. This requires prostheses or specially arranged environmental support.

The rare combination of both aural and visual handicaps in workers is perhaps the most difficult disability to overcome for the acquisition of complex work skills. Yet it has been found that such disabilities need not impede learning progress on difficult tasks such as bicycle brake assembly (Gold, 1976).

Low Production-Slow Motor Behavior. Once a task is mastered, high rate performance then becomes important. This is a serious problem with many prevocational students, particularly those with a long history of institutionalization. Slow motor behavior is one characteristic of visually impaired prevocational students who have not been required to meet a work criterion for success. Clients may be persistent and stay on task, but actual motor movements are lethargic and at far too low a rate to enter into competitive employment. Often such clients are unresponsive to many of the commonly used workshop incentives such as praise or money. Without objectively established work criteria, it is difficult for workshop supervisors to determine which clients are performing competitively. Workers who stay on task and do not disrupt workshop routine are viewed as performing adequately. This is based on a popular vocational training model of "work activity or keep busy" rather than a model which looks to expand the work skill repertoire of clients.

Low Production-Interfering Behaviors. Equally problematical in accelerating production rates with the visually impaired prevocational students is the presence of interfering or competing behaviors. High levels of distractability and hyperactivity, out-of-seat behavior, excessive looking around, bizarre noises, and playing with the task represent competing behaviors which preclude the development of appropriate vocational skills.

Similarly, the work performance of visually impaired clients may be highly susceptible to changes in the work environment. Fairly commonplace alterations in the work setting or routine can upset client work behavior thus making continuity of programming difficult. Many individuals may display criterion level work rates but only for short duration of time.

Assessment in Prevocational Programs

The data collected on each client's performance provides the basis for program decision-making and modification. Data serve as the means of evaluating: a) the progress of each client and b) the effectiveness of instructional techniques.

The types of data listed below may be collected:

1. Number of steps acquired independently in task analysis for each target objective. This involves keeping a record of the number of steps in a task analysis which a client completes independently. It provides a sensitive evaluation of client progress.
2. Amount of teacher assistance required. The amount of verbal prompts, required in each training situation can also be recorded for a more specific analysis of teacher behaviors.
3. Number of trials to criterion. The number of training trials until the skill(s) is acquired is a third source of data which may be used to evaluate client progress.
4. Number of minutes required to complete task (duration) or number of units completed per time period (rate). These measures provide a valid indication of the client's performance in vocational and independent living instructional situations. Rate assessments are computed by dividing the total number of units completed by the total number of minutes the individual worked.
5. Pre-posttest gains in the Prevocational Assessment and Curriculum Guide (Mithaug, Mar and Stewart, 1978). This provides a standardized index of behavior change in clients and is in our opinion, the leading test for developmentally disabled clients being evaluated for work. Table 2-1 provides a copy of this checklist.

Insert Table 2-1 About Here

Instructional Techniques

In the section below, training strategies are described according to the type of training problems discussed earlier. Table 2-2 provides a hierarchy of intervention techniques which may be employed.

Acquisition Problem-Discrimination Deficits

The most frequently used training method is the use of verbal instructions. Many times a new task will be acquired with only a verbal explanation. This should logically be the initial method used to train a new task. If unsuccessful, a trainer must attempt to train a task through the use of alternative methods.

Illustrations of this include verbal instructions paired with modeling of the correct movements (Bellamy, et al., 1975), priming the response and physical guidance (Williams, 1967). Breaking a task down into small measurable components (task analysis) is also an effective technique for aiding acquisition (Crosson, 1969; Gold, 1976) as is the method of presenting learning material in an easy-to-hard sequence (Gold & Barclay, 1973). In the case of clients who fail to attend to relevant cues or task dimensions, the use of cue redundancy, i.e., color-coded parts, facilitates acquisition (Gold, 1974).

Acquisition Problem-Sensory-Motor Deficits

In meeting the needs of clients with sensory-motor deficits, the clients' physical capacity must be the first consideration. In the case of poor motor coordination due to cerebral palsy or loss of limb, the first four suggested strategies in the hierarchy do not differ from those used with clients whose acquisition problems are due to discrimination deficits. However, if the client's physical limitations are extensive, the arrangement of materials or the use of prosthetic devices such as specially designed jigs may be a crucial factor in the acquisition of vocational skills.

The trainer should modify the task so that clients are able to complete a task with the least effort and most speed.

Low Production-Slow Motor Behavior

As clients become more proficient at performance of a task, increasing the rate of production to competitive employment standards becomes a focal point. The visually impaired client must produce at a competitive level in order to obtain and maintain community employment. The use of a verbal prompt to "work faster" appears to be the least time consuming and most efficient technique providing that it is effective (Bellamy et al., 1975). Peer modeling (Brown & Pearce, 1970; Kazdin, 1973a; Kliebahn, 1967) and trainer modeling have also facilitated an increase in production rate.

The manipulation of reinforcing events provides another extensive area of possible techniques. Reinforcer proximity, increasing the frequency or the amount of reinforcement, and increasing the number of redemptions of token reinforcers in a work period have all been demonstrated as viable techniques for incresing production rates (e.g., Schroeder, 1972). Furthermore, the use of mixed schedules of reinforcement such as continuous social reinforcement for each unit completed, and penny or token reinforcement for every ten units completed, can be extremely effective in altering production rates.

However, if the problem of low production rates still persists, it may be necessary to provide aversive consequences. Once a trainer has established a level of expectancy or a minimum criterion for production rate, the use of aversive consequences may be appropriate. Implementing a verbal reprimand procedure and no reinforcement, or a response cost procedure for low production may be effective if used in conjunction with positive consequences for acceptable work rates. With an established minimum criterion for performance, the use of an isolation avoidance procedure may also be used successfully (Zimmerman, Overpeck, Eisenberg, & Garlick, 1969). An isolation-avoidance procedure entails the removal of the client from the work area if a designated work criterion is not met.

Because low production is often a result of slow motor behavior, implementing a positive practice overcorrection procedure with the intent of teaching fast motor behavior is a feasible alternative. This requires guiding the client through a task a number of times (so that it constitutes an extended duration) at a fast rate, and therefore, teaching a client to move with speed. If this procedure is implemented, a trainer must take care to make the physical guidance sufficiently unpleasant so that it is not socially reinforcing to a client. Although the efficacy of positive practice (overcorrection) in prevocational settings has not as yet been demonstrated in the research literature, this remains a fertile area for future investigation.

Low Production-Interfering Behaviors

Low production rate as a result of nonfunctional competing behaviors poses a somewhat different problem. A trainer must not only increase clients; work, but also decrease or preferably eliminate the amount of time a client engages in the interfering behaviors. Manipulating different parameters of reinforcement may also be effective in alleviating this problem; unfortunately, only recently has there been published research which describes efforts to overcome excessive distractability by clients in vocational settings (Mithaug, 1978).

In order to decrease many interfering behaviors, it may be necessary to implement aversive consequences (see the excellent paper by Mithaug). The use of response cost (Kazdin, 1973 b), restraint and positve practice overcorrection (Azrin, Gottlieb, Hugharts, Wesolowski, & Rehn, 1975) procedures as immediate consequences for engaging in interfering behaviors may successfully decrease stereotypic behavior, aggression, out-of-seat beahvior, and bizarre noises. These are procedures which have been effective with several handicapped populations in different settings, and should be seriously considered in prevocational programs for the visually impaired.

Insert Table 2-2 About Here

General Strategies for Treatment

To facilitate specific sequences of training and management techniques, a number of general strategies for treatment may be employed. The general intervention strategies discussed in this section include a changing-criterion methodology, intensive treatment program outside of the work area, and self-control strategies.

Changing-Criterion Design. A changing-criterion design may be used when work behaviors are gradually shaped to a competitive level (Axelrod, Hall, Weis, & Rohrer, 1974; Bates, Wehman & Karan, 1976). Employing this design, a minimum criterion or level of expetancy for production rate must be met for a client to earn reinforcement. As a client's productivity consistently meets the criterion, the criterion is gradually increased or made more stringent. Thus, over time and with the use of effective behavior shaping methods, productivity may greatly increase from the initial criterion.

The changing criterion design may be employed with specific operant techniques to alleviate low production due to slow motor behavior or competing behaviors. In the case of low production behaviors, a changing time contingency may be introduced. The procedure requires setting a specific time limit for the completion of a task and places the client under a time limit in order to receive reinforcement. A timing device, such as a kitchen timer, may be utilized as a cue for the client and a subsequent indicator that a time limit was not met. As the client consistently meets the required time limit, the time criterion can be gradually decreased. This procedure has the potential of increasing client work rate, while successfully decreasing the amount of time a client engages in competing behaviors.

Intensive Treatment Program. Low production rates resulting from client excessive interfering behaviors poses a difficult remediation problem. Operant techniques employed within the work environment, such as manipulating different parameters of reinforcement, may not obtain successful results with particularly distractable and/or disruptive clients. With such clients, it may be advantageous to implement a treatment program in a relatively stimulus free environment. Previously discussed training techniques may be enhanced by reducing the number of environmental cues to which a client might attend. As a client demonstrates increased on-task behavior, the treatment program may be gradually brought back into the work environment.

Self-Management Strategies. The operant techniques and procedures discussed thus far pertain to external control on the part of a significant change agent such as a workshop supervisor. These techniques involve staff-administered contingencies; if relied on entirely, they can present potential disadvantages to self-sufficient vocational behavior (Kazdin, 1975).

One major problem is that an external control approach precludes the development of self-directed choice behaviors on the part of visually impaired clients. Many rehabilitation professionals recognize this deficit as a primary obstacle in the community transition process for these clients. Secondly, an external control approach presents a number of inherent drawbacks. Since it is virtually impossible to notice all instances of an appropriate response, a workshop supervisor or counselor usually misses many opportunities to reinforce a client. Furthermore, change agents may become a cue for behaviors to occur rather than natural environmental stimulus conditions (Redd & Birnbrauer, 1969). This drawback relates also to the problem of transfer of training and durability of program progress. Thus, whenever possible, the external control approach must not be viewed as an end itself, but rather as a means to train a client to control his or her own behavior and achieve self-selected goals.

Self-control has been defined in reference to "those behaviors an individual deliberately undertakes to achieve self-selected outcomes" (Kazdin, 1975, p. 192). Self-control training procedures which are applicable to the visually impaired include self-observation, self-reinforcement, and stimulus control.

Self-observation has been successfully utilized with mentally retarded clients through the use of behavioral graphs (Jens & Shores, 1969), and daily feedback of work performance from a videotape (DeRoo & Haralson, 1971). Employing this procedure, a client is trained to become aware of his or her work performance through immediate external feedback and by displaying a visual record of work behavior. Gradually, a client's self-observation can be faded to a pictorial representation of improvement in work performance. Such techniques should be effective with clients whose residual vision allow them to attend to the visual reinforcers.

Self-reinforcement is another strategy which holds potential, particularly in programs that use token economies as a motivational system. Two concepts of self-reinforcement are self-administered reinforcement and self-determined reinforcement. An important requirement for both self-administered reinforcement and self-determined reinforcement is that the individual is free to reward himself at any time whether or not he performs a particular response (Skinner, 1953).

Self-administered reinforcement refers to a client taking a reinforcer himself, but under an externally determined criterion. Once a client's self-administered reinforcement response is shaped, it becomes possible to move toward self-determined reinforcement. This broader concept of self-reinforcement allows for clients to determine their own work criterion (e.g., Glynn, 1970). It may be possible for contingency contracts to be set up between clients and workshop supervisors. Within such a contract would be a set rate of work and social skills which a client agrees to perform. In return, he or she can self-select reinforcement preferences for performance of the contract.

Another self-control strategy which may be employed is stimulus control. Stimulus control refers to specific behaviors performed in the presence of specific stimuli which serve as cues and increase the probability that the behavior is performed. For example, self-observation may function as a reinforcing consequence initially, but may also function as a discriminative stimulus for subsequent task related behaviors.

Possible applications of the stimulus control strategy in prevocational programs for the visually impaired include altering stimuli which consistently lead to frustration-aggression situations, modifying cues that presumably contribute to task failure, or pairing positive stimuli with low preference tasks. Social behaviors such as eliciting social greetings, being on time, or appropriate use of leisure time might also be developed through stimulus control.

This section has attempted to provide direction in treatment strategies for prevocational personnel who work with the visually impaired. It was pointed out that a handicapped worker presents a unique set of learning and behavior characteristics which can make traditional types of training and management techniques less applicable. It is strongly suggested that the hierarchy of strategies proposed for treatment be systematically examined with different learning/behavior problems in an effort to validate which methods are most effective with particular prevocational problems.

Table 2-1

Prevocational Assessment and Curriculum Guide

Rank **Does Your Client:** **Yes/No**

I. Worker Behavior

1. Participate in work environments for 6-hour periods? ______

2. Move safely about shop by:
   a. Walking from place to place? ______
   b. Identifying and avoiding dangerous areas? ______
   c. Wearing safe work clothing? ______

3. Work continuously at a job station for 1-2 hour periods? ______

4. Learn new tasks when supervisor explain by modeling? ______

5. Come to work on an average of 5 times per week? ______

6. Correct work on task after the second correction? ______

7. Leave job station inappropriately no more than 1-2 times per day? ______

8. Want to work for money/sense of accomplishment? ______

9. Display or engage in major disruptive behavior no more than 1-2 times per week? ______

10. Understand work routine by not displaying disruptive behavior during routine program changes? ______

11. Continue to work without disruptions when:
    a. Supervisor is observing? ______
    b. Fellow worker is observing? ______
    c. Stranger is observing? ______

12. Display or engage in minor disruptive behavior no more than 1-2 times per week? ______

13. Adapt to new work environment with normal levels of:
    a. Productivity in 1-5 days? ______
    b. Contacts with supervisors in 30-60 minutes? ______

14. Complete repetitive tasks involving 1 step at 95% accuracy? ______

15. Work alone without disruptions for 15-minute periods with no contacts from supervisor? ______

16. Deviate from shop rules no more than 1-2 times per week? ______

17. Work at job station with no more than 1-2 work disruptions per day? ______

Table 2-1 (Cont'd)

Prevocational Assessment and Curriculum Guide

Rank Does Your Client: Yes/No

I. Worker Behavior (Cont'd)

18. Work in a group situation and increase production:
    a. When supervisor asks to work faster? ______
    b. When supervisor asks to produce more than previously? ______
    c. When supervisor asks to complete work by specified time? ______

19. Learn to minimum proficiency a new job with one step in 0-15? ______

20. Work alone without disruptions for 30-minute periods with 1-2 contacts from supervisor? ______

21. Work alone and increase production:
    a. When supervisor asks to work faster? ______
    b. When supervisor asks to produce more than previously? ______
    c. When supervisor asks to complete work by specified time? ______

II. Social/Communication Skills

22. Communicate basic needs such as thirst, hunger, sickness, pain, toileting conditions? ______

23. Communicate basic needs receptively by means of:
    a. Verbal expression? ______
    b. Gestures? ______

24. Communicate basic needs expressively by means of:
    a. Verbal expression? ______
    b. Gestures? ______

25. Respond to instruction requiring immediate compliance within 0-30 seconds? ______

26. Respond appropriately to safety signals given:
    a. Verbally? ______
    b. Through signs? ______
    c. Through signals? ______

27. Initiate contact with supervisor when:
    a. Cannot do job? ______
    b. Runs out of materials? ______
    c. Finishes job? ______
    d. Feels too sick/tired to work? ______
    e. Needs drink/restroom? ______
    f. Makes mistake? ______

28. Initiate contact inappropriately with strangers no more than 1-2 times per day? ______

Table 2-1 (Cont'd)

Prevocational Assessment and Curriculum Guide

Rank	Does Your Client:	Yes/No
	II. Social/Communication Skills (Cont'd)	
29.	Respond appropriately to social contacts on one out of two occasions?	______
	III. Self Help/Grooming Skills	
30.	Maintain proper grooming by:	
	a. Dressing appropriately for work?	______
	b. Dressing appropriately after using restroom?	______
	c. Cleaning self before coming to work?	______
	d. Cleaning self after using the restroom?	______
	e. Cleaning self after eating lunch?	______
	f. Eating food appropriately at lunch?	______
	g. Displaying proper table manners at lunch?	______
31.	Reach place of work by means of:	
	a. Company-sponsored vehicle?	______
	b. Own arrangement?	______
32.	Maintain personal hygiene by:	
	a. Shaving regularly?	______
	b. Keeping teeth clean?	______
	c. Keeping hair combed?	______
	d. Keeping nails clean?	______
	e. Using deodorant?	______
33.	Eat lunch independently with no assistance in:	
	a. Getting lunch sack/container?	______
	b. Getting food out of container?	______
	c. Pouring liquid into cup/glass?	______
	d. Putting food back into container?	______
	e. Putting food container away?	______
34.	Take care of toileting needs independently with no accidents per month?	______

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Table 2-2

A Logically Arranged Hierarchy of Procedures for Alleviating Work Problems

1. Learning or Acquisition Problem - Discrimination Deficits

    1. Verbal instructions

    2. Model and verbal

    3. Verbal and physical guidance

    4. Break task down into simpler steps (easy-to-hard sequence) and repeat steps 1-3

    5. Cue redundancy or stimulus fading depending on task

    6. Steps 1-5 are always accompanied by positive reinforcement for correct responding

II. Learning or Acquisition Problems due to Sensory-Motor Deficits (assess handicap to be sure there is a physical problem)

A. Poor motor coordination
    1. verbal instructions
    2. model and verbal
    3. physical and verbal
    4. break task down into simpler steps (easy-to-hard sequence) and repeat steps 1-3
    5. prosthetic device or physical
    6. cue redundancy or stimulus fading
    7. same as above step 6

B. Visually handicapped
    1. verbal instructions (detailed)
    2. physical guidance and verbal instructions
    3. tactile cue redundancy and repeat steps 1-2

C. Acoustically handicapped
    1. gestural instructions
    2. physical guidance
    3. break task down into simpler steps (easy-to-hard sequence) and repeat steps 1-2
    4. cue redundancy or stimulus fading depending on task

D. Deaf-Blind
    1. physical guidance
    2. tactile cue redundancy

Table 2-2, Continued

III. Low Production-Slow Motor Behavior

1. verbal prompt (i.e., "Work faster")
2. verbal plus model
3. physical prompt (paired with verbal)
4. reinforcer proximity
   a. pennies present
   b. back-up present also
5. increase frequency of receiving pennies
6. increase amount of pennies and/or back-ups
7. increase frequency of redemption of pennies
8. verbal reprimand plus no reinforcement
9. response cost
10. isolation-avoidance
11. positive practice
12. presentation of aversive stimuli

IV. Low Production-Interferring or Excessive Behavior

(representative classes include:
   a. nonfunctional competing behaviors;
   b. bizarre noises;
   c. out-of-seat;
   d. aggression vs. objects;
   e. aggression vs. people).

1. verbal reprimand and prompt
2. verbal reprimand and physical prompt
3. reinforcement proximity (pennies then back-up)
4. increase frequency of receiving reinforcement (pennies)
5. increase amount of pennies and/or back-up
6. increase frequency of redemption
7. response cost
8. restraint
9. overcorrection-positive practice
10. isolation-avoidance
11. presentation of aversive stimuli

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CHAPTER THREE

TOWARD COMPETITIVE EMPLOYMENT
FOR VISUALLY IMPAIRED INDIVIDUALS

TOWARD COMPETITIVE EMPLOYMENT FOR DEVELOPMENTALLY DISABLED INDIVIDUALS

In the past decade there have been ample illustrations of the sheltered work potential of visually impaired individuals. The results of these studies suggest that visually impaired individuals can succeed in a sheltered work environment. Although this is a positive development, it still falls considerable short of job placement into competitive employment (Mithaug & Haring, 1977; Usdane, 1976). There are several reasons for this. First, few sheltered workshops pay the minimum wage but rather compensate on a piece rate basis. Subsequently, many workers earn only $80 to $100 a month, if that. Secondly, sheltered employment is primarily restrictive; that is, it includes only handicapped workers and therefore limited opportunities for interaction with nonhandicapped individuals. Sheltered employment unfortunately perpetuates segregated programming. Furthermore, in sheltered workshops there are rarely the full spectrum of fringe benefits, i.e., Blue Cross, which are available in many competitive employment situations. A final limitation of sheltered employment is that it is often a needlessly terminal placement for many individuals. It becomes terminal because the employee is a critical part of the production process and invariably is "carrying" several less productive workers. Therefore, the workshop supervisor may be reluctant to move the worker into competitive employment from the shop.

The purpose of this chapter is threefold. First, factors involved in facilitating the entry of visually impaired individuals into competitive employment will be discussed in depth. Second, specific assessment and intervention strategies unique to on-the-job-training programs will be described. Finally, the guidelines for the Motivational Wage Work Program at the Academy will be presented to illustrate one step in the competitive employment training process.

Facilitating the Entry of Visually Impaired Individuals into Competitive Employment

This section will describe the factors involved in helping visually impaired individuals enter competitive employment. The information contained in this report complements the job inventory strategy guidelines presented by Belmore and Brown (1978). This information is also based on an on-the-job training model by which a trainee is placed in a potential job opening in the community and supervised on a continual, but gradually decreasing basis by Academy staff. The Academy staff member serves as a means of assurance to the employer that the job will be completed even during the initial stages of training and to the trainee and his family that the needed skills will be acquired for employment. As the prospective employee's performance reaches appropriate standards, the employer may, then, exercise his option to officially hire the trainee. Extensive follow-up services are continued by the Academy staff.

Factors to Consider in Job Selection

There are numerous client related variables which must be evaluated before job placement. Because potential job openings for visually disabled individuals are often difficult to locate, program staff are frequently tempted to decide arbitrarily which trainee is most suited for placement in a rare job opening rather than search for job specifications which most suit a given individual. In this regard, Mithaug, Hagmeier, and Haring (1977) have noted.

> We can begin by focusing upon one job at a time, rather than trying to analyze the entire job market at once. Also, we should specify the most probable job placements for our client's immediate career. Finally, we can analyze the job situation of selected placements, noting and listing the work skills and habits necessary for entry. . . Unfortunately, information on methods to use in this assessment is not available. All we can suggest is that the focus be on the job supervisor. . . (p. 91)

We have found that there are several other factors which must be considered. These points are discussed below. They are essential in order to identify the most appropriate job for a visually handicapped client.

Clients Previous Work History. An examination of the previous work record of a visually handicapped adult will frequently yield a history marked by successive failures. The visually handicapped have, in some cases, been dismissed from public school vocational education programs, sheltered workshops, and even community-based activity centers under the rationale that progress was not possible. However, even a record of failure may provide important information when considering job placement. Through this record, specific breakdowns in programming can be identified. Examples of this might include client preference for certain reinforcers or volatile behavior problems, which occur under different conditions.

An investigation of previous work may be done by initially surveying the following sources:

1. Parents and family members
2. School personnel
3. Rehabilitation intake workers and counselors
4. Case managers or social workers assigned to the trainee
5. Written records from schools, activity centers, or workshops

These sources frequently document some aspect of the trainee's previously attained production rates, quality of work, length of work history, and level of independence in a work setting. The work attitude of the trainee as well as the family's attitude toward work and transportation needs may also be available. An analysis of this information, which is admittedly not always a valid predictor of job success (Gold, 1973), can nevertheless help the job coordinator avoid mistakes which may have been made earlier.

Client Functioning Level and Physical Characteristics. Once previous job history information has been gleaned, then a careful analysis of the client's functioning level should be undertaken.

Mithaug, Mar & Stewart's (1978) Prevocational Assessment and Curriculum Guide is one possible assessment tool which might be utilized. Though this tool was designed for sheltered workshops, it has numerous items which would be equally appropriate for those entering competitive employment. The interested reader might also consult the vocational behavior checklists listed by Walls and Werner (1977). From this screening, a list of job categories or types of jobs which most suit the trainee's competencies can be generated. The following client characteristics influence the type and length of job placement:

1. Presence of handicaps in addition to the vision impairment
2. Frequency of on-task behavior
3. Degree of independent mobility
4. Communication skills
5. Degree of self-initiated work behavior
6. Appropriateness of social skills

Clearly, certain jobs require more of the above stated abilities than others. For example, in order to pick up trash and bag it on a college campus will require independent walking and orienting skills. Well developed social skills might not be necessary. On the other hand, in order to operate a utility elevator in a large hospital, ambulation skills could be impaired but fine motor skills and social skills should be well developed.

There are other more subtle variables regarding the characteristics of the trainee which may be critical for the ultimate success of a placement. As with nonhandicapped workers, certain trainee personality and physical characteristics when mixed with certain personality traits of the immediate supervisor are related to job success and ease of adjustment to a new work setting. The easiest way of analyzing the interaction of these factors is to have program staff spend time within the work setting before making the placement. It is usually necessary to examine the group dynamics which occur, the flexibility or rigidity of the supervisor, the age and openness of co-workers, and whether other handicapped personnel are present in order to identify critical behaviors necessary for entry in that job site. If supervisors have had previous experiences with disabled employees, and these experiences were positive, there is usually a better opportunity for making the placement.

Supplemental Security Income. One frequently cited obstacle to job placement of the handicapped is the threat of losing guaranteed financial aid payments from the government. Although these payments are relatively low ($189.40 per month, if no other earned income, as of July, 1978) parents and sometimes clients themselves often prefer the arrival of a guaranteed check each month rather than risk job placement. In addition, if the S.S.I. benefits are reduced to zero dollars per month according to local and federal deduction formulas, Medicaid benefits are also lost. The loss of Medicaid can be serious for those individuals who require much medication in that Medicaid pays all but 50¢ on every prescription. However, other than this area, a good medical insurance plan gained through employment provides equal or better medical coverage for the working individual.

Placement personnel must approach this aspect of the employment process as a serious concern to all involved and reduction of financial aid due to employment must be fully explained to the family. If the client and family understand these procedures, they will find that during the first 12 months of employment there is little risk of losing all forms of monthly income. That is, if the job is terminated, S.S.I. benefits can be readjusted to the pre-employment level within 10 to 20 days. If an individual clearly must retain Medicaid benefits, it would be wise to arrange for part-time employment rather than a full-time job. In this way, the part-time employee, depending upon his/her rate of pay, would probably retain some portion of S.S.I. benefits and, therefore, remain eligible for Medicaid coverage. Table 3-1 provides a written fact sheet which shows the client and family the effects of employment on S.S.I. benefits.

Insert Table 3-1 About Here

Client Living Situation and Transportation Needs. The client living situation is another factor which can play an important role in job selection. For example, the distance of the job from the trainee's home must enter into the dicision to seek employment with a given company. Transportation is usually a problem because some visually impaired individuals may not be able to utilize public transportation. Thus, transportation must be worked out by the job coordinator, rehabilitation counselor, and parents. Below are listed some of the ways which may be used to work out this potential obstacle to placement:

1. Consider whether a placement is available which is close enough for client to walk.
2. Have parents take individual to work.
3. Have parents form car pool with parents of other trainees if possible.
4. Complete bus training if public transportation is available and feasible.

5. Have co-worker pick up trainee and take him home; work out equitable pay situation.
6. Investigate whether locality has a bus or van which is used to help disabled or senior citizens get around community.

Unquestionably, the transportation problem can be a major stumbling block. A job coordinator must be diligent and initially may have to participate in the actual transporting of the trainee. Once the individual is formally hired and is being paid regularly, parents and other co-workers may view him in a more credible light and therefore, make a greater commitment toward transportation assistance.

The type of home which the trainee resides in will also influence the job selection process. As Schalock and Harper (1978) have noted, the disabled individual's physical grooming, clothing care, eating and sleeping habits, and financial resources are important variables in the competitive employment process. The individual's competency in these areas may vary depending on whether he/she lives in a real home, a group home, a boarding house, or residential facility. To take this factor one step further, consider a family of three. The parents are in their late sixties and are physically incapacitated. They have a 33 year old visually impaired son or daughter. Assume the son or daughter has an opportunity to work as a kitchen laborer at $3/hour for a nearby restaurant for 40 hours a week. However, the only work shift available is 5:30 a.m. to 2:30 p.m. This may pose a real dilemma for the parents in terms of transportation and, equally important, in interrupting the normal life style in the home. These are real concerns which a job coordinator must face in placing severely disabled adults with limited work histories. These problems are best solved by patience, use of other parents to persuade skeptical families, and most importantly, assurances of initial supervision and training on the job.

Client and Parent Attitudes. As noted above, many visually disabled individuals have experienced more than one disappointment due to unkept promises made through previous programs. Therefore, the objective of job placement is frequently met with much skepticism on the part of the parent or guardian. Indeed, the client's attitude may also reflect that of the parent. The "I don't want a job" philosophy often stems from the fact that the individual has learned from his or her parents that it is not necessary to work. If this is the case, job placement personnel must provide assurance to the entire family that the objectives and techniques of the program are sound and that the prospective employee deserves the dignity of risk (Perske, 1972). There are several factors which may persuade reluctant families:

1. Assurance of continual daily on-the-job supervision and "inservicing" of nonhandicapped co-workers in the job setting.
2. Assurance that the trainee's placement spot in his current program will be kept open if the job placement does not work out.
3. Careful explanation of the rules and regulations governing the Supplemental Social Security Income which most severely disabled persons receive and which will be halted upon full-time employment.
4. Careful explanation of the amount of weekly wages and fringe benefits which will now be available to the individual.

After consent to job placement is gained, client and parents must be involved in the initial planning as to the location of the job, type of work required, and any special employer requirements. The location of the job may be a source of fear for families of women involved in the program. If no definite assurances can be made regarding the long-term safety of the person, then certainly the parents' wishes must be viewed as realistic concerns. The trainee and the parents should be clearly informed as to the type of work and its requirements prior to placement, e.g., crew work vs. working alone, hours, clothing required, etc. Parents should also be made aware of any changes in job responsibilities as they occur.

Frequent communication will help families remain informed and avoid potentially embarrassing incidents with the employer concerning job requirements imposed on the trainee. Even with daily communication, however, some parents may call the employer unnecessarily. As with most companies and government organizations, the employer is largely concerned that the employee is performing the job adequately; there is not usually time available to counsel worried or overprotective parents. Furthermore, this tends to cast a negative light on the trainee who may subsequently be viewed as less independent.

In short, the job coordinator, teacher, or counselor, must function not only in a training and placement capacity but must provide systematic supervision and follow-up once the placement is made. Furthermore, it is critical that the job coordinator serve as a mediator between the employer's needs, client's capabilities, and parent's wishes.

Factors to Consider in Identification of an Appropriate Employer

Once relevant factors which influence the job selection process have been assessed, the selection of an appropriate employer is necessary. This includes selection of the company or organization which the job coordinator and client will apply to. It also involves how to approach employers initially and overcoming the type of misconceptions and problems which many employers have with handicapped workers. Finally, an extended field training period for purposes of evaluation may be established.

Community Job Assessment. A survey of available community jobs must be initiated as the first step in locating a place of employment for the client. This may be facilitated through screening newspaper want ads for skilled or non-skilled employment opportunities. Descriptions to look for within ads meeting the skill criteria are "will train" or "No experience necessary." The types of jobs may vary from location to location. However, there will usually be those which fall under categories such as food service, groundskeeping, and maintenance. Although these are but a few of the types of jobs disabled individuals can perform, they have proven to be ones in which disabled individuals can excel (Becker, 1976).

There are other means of screening the community for jobs as well. For example, reviewing the yellow pages in local phone books may yield major contractors in target occupational categories. Personal contacts within companies or organizations which have relevant jobs should also be utilized if appropriate. The National Alliance of Business men usually has a local branch which may prove helpful since they receive many job pledges from business and industry every year. Most states have an employment commission which receives a listing of job vacancies that may be appropriate as well.

Frequently, universities, colleges, hospitals, and other large institutional settings are most fruitful in terms of job placement for visually impaired individuals. This type of employer has several positive points. First, they typically have a high turnover of the types of jobs which visually disabled persons can perform. Second, they frequently have a commitment to hire handicapped individuals. Third, the pay and benefits are frequently quite desirable. Finally, it may be most efficient to assign one teacher or job coordinator to the same job site and gradually increase the number of trainees. As a trainee becomes increasingly competent at the job, a second individual can be introduced to the employer. This process can continue until quite a few trainees have been hired.

Once several job leads have been identified, the next step is to follow-through by making the initial telephone contact. This can be facilitated by a social contact or someone already working in the company that is willing to talk to the employer before the phone call. The Director of Personnel is the logical contact person in most cases. In our experience an honest, yet optimistic, approach is best received. A brief explanation of the program in general terms should be followed by asking if the company would consider allowing a visually impaired person to train for the advertised position or a similar one. At times, employers may have jobs which were not advertised but which may be more appropriate for the client.

A general reaction will be generated by the employer through the telephone contact. This reaction may be positive, negative, or cautiously positive. In most cases it is best to eliminate the negative employers and concentrate on the positive employers. To a certain degree, this will be influenced by the type and number of appropriate job vacancies which an employer has. With the employer who appears to be receptive, an interview date should be set as soon as possible.

Approaching the Employer. The initial personal contact is critical in terms of making a placement. It is during this stage that a full description of the program, clients' abilities, staff's training capabilities, as well as the generally positive aspects of hiring visually impaired workers is related. This contact will also give the job coordinator an opportunity to find out what other job possibilities are available and what the prevailing sentiment is toward hiring disabled clients.

Some employers, unfortunately, have had disappointments in attempting to work with other programs for the handicapped. These disappointments may be expressed in terms of "The counselor only came the first day," or "No one else was here to teach us how to work or communicate with him," or "They came the first day with the teacher and we never heard from them agaim." During the initial contact, it is important to dispel these concerns and point out the differences between the present training program and others. *The sincerity demonstrated during this time must be kept to establish a good future working relationship with the company or organization*. It is necessary to keep in mind that interacting with businessmen is not the same as interacting with special education and rehabilitation personnel. Visually impaired clients' capabilities must be presented in general descriptive terms concerning their abilities. Their potential benefit to the company must be presented in business terms, such as the predominantly positive track record which visually handicapped workers have after initial supervision. If the attitude toward the program and future placements appears positive, then a trial training period may be negotiated.

Establishing a Training Period. The establishment of a training period may take place during the initial personal contact or during future contacts. It is not unlikely that several more contacts may precede the agreement on the training period. This becomes more likely with larger businesses with extensive personnel division hierarchies. Approval needs to be given from the Director of Personnel down through the immediate foreman or supervisor. The length of the training period should be based on the clients' abilities, prior training, the job surroundings and the skills involved. The training period may be viewed as extended training from the classroom or workshop and hence be nonpaid for a short period of time. On the other hand, rehabilitation counselors may provide funds to reimburse employers. For rehabilitation funds to be utilized, however, the counselor must be convinced of the trainees employment potential. The training period should be presented to the potential employer and parents as a predictor of the client's ability to perform the job accurately, and within the specified time frame.

Ideally, the immediate supervisor will agree to directly observe the trainee at certain periods of time throughout training. In this way the company will be aware of the progress which the trainee is making. Furthermore, the supervisor can advise the job coordinator in ways that the job may be completed more efficiently. The job coordinator must keep careful objective records of the trainee's progress. These may include:

1. Observations at different intervals of the day of on-task versus off-task behavior.
2. Recording at different intervals of the day of frequency and type of trainer prompts required.
3. Recording at the end of each day of the clients' general work behaviors. These include absenteeism, tardiness, appearance, and social behavior with the supervisor and co-workers.

These data should also be collected after the hiring at selected follow-up intervals. This will document to the employer the success of the trainee and pave the way for other clients. This system is described in more detail in the next section.

The training period is a time when the job coordinator and supervisor can work together in helping the client (Cooper, 1977). To a large extent, the rapport between the supervisor and trainee will facilitate his hiring as well as the hiring of future trainees. The job coordinator's role in this process is twofold. One, there may be a demonstration of how to most effectively work with the trainee. The caution here is to not work with the client to the exclusion of the real supervisor; if this occurs, there may be difficulties in maintaining work performance once the job coordinator leaves. The second function of the job coordinator is to be an effective advocate for the trainee with other individuals in the environment. This may include getting media support, explaining the client's role in the work force to others in the work environment who are not informed, or simply helping the trainee get adjusted to unfamiliar work surroundings.

The Job Interview. After the training period is established, a time for an interview between supervisor, trainee and staff member must be set. The interview should take place after formal interview training has occurred. The job coordinator should only enter the interview if the trainee's interview abilities break down. The following job interview skills should be stressed in preplacement training:

1. Good body posture when standing and sitting.
2. Firm handshake and release after appropriate time span has passed.
3. Ability to respond to small talk characteristic of an interview, i.e., "How are you?" "Have you worked before?"

Although lack of proficiency in each of these skills will not necessarily preclude placement, it will considerably enhance the trainee's chances of being hired if there is evidence of good interview behavior and neat appearance.

Behavioral Assessment in Competitive Employment

In order to document the effectiveness and impact of training and placement efforts, an observation and recording system must be established. The ideal assessment system relies on direct observation by Academy staff of client's job performance. Observations may be recorded immediately and graphed. When this type of data collection system is used in conjunction with more traditional survey and test forms, a true picture of client vocational abilities emerges.

There are several characteristics of an optimal recording system which should be noted. First, target behaviors for observation must be defined carefully so that two or more observers can agree on the occurrence or nonoccurrence of the behavior. For example, "on-task" vs "off-task" behavior must be defined according to the specific paremeters of the job. That is, the on-task behaviors of a kitchen helper will be different than those of an elevator operator. Second, because in some situations there will be many clients and few staff, it may be impossible to record each client's behavior continously. Therefore, sampling work behavior by observing and recording several five, 10 or 15 minute intervals each day may be performed. Third, an effort can be made to periodically involve a second independent observer who collects data simultaneously. Data sheets are then compared and checked interval by interval for agreement. This provides an index of reliability and thereby insures the accuracy for the performance recording system. A fourth characteristic is that behavior should be observed and recorded daily.

The use of ongoing system of job performance assessment provides the advantage of empirically verifying the successful work adjustment which previously excluded clients make in competitive employment situations. Furthermore, in many situations trainees will be placed in extended (field) training situations; objective data will help the trainee's work potential.

There are three primary types of records which may be used in job performance assessment in the field. These include:

1. Sample of Work Regularity
2. Levels of Assistance Required for Job Completion
3. Supervisor Evaluation Form filled out by Employer

Work Regularity

The assessment of work regularity involves defining the on-task versus off-task job behavior, observing and recording the client through several five to ten minute intervals daily, and graphing results.

Table 3-2 provides an illustrative data sheet which facilitates the recording of this information. By recording nonhandicapped workers' performance rate as well, a job coordinator can also make comparisons between visually impaired trainees and "normal" workers.

Momentary time sampling is the measurement technique used. As an example, this form of assessment requires the observer to look at the trainee's behavior every 10th second within a selected interval. If the trainee is on-task a plus (+) is recorded; if not a minus (-) is recorded. A percentage of pluses and minuses is then computed.

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Insert Table 3-2 About Here
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Although the above index is of value for recording work rate over time, it fails to evaluate the amount and degree of intervention required to develop and maintain consistent work performance.

Therefore, an observation and recording system should also allow for coding which forms of assistance are necessary to help the trainee complete a job. These levels of assistance include:

1. Verbal cue only	Example: "John, don't forget to clean the ashtray too"
2. Verbal cue plus gesture	Example: "John, don't forget to clean the ashtray over there" - Trainer gestures to ashtray.

3. Verbal cue plus model	Example: "John, clean the ashtray like this" - Trainer demonstrates how to clean ashtray.
4. Verbal cue plus physical prompt	Example: "John clean the ashtray" - Trainer physically assists John through task.

As this hierarchy also provides the sequence of instruction which may be utilized in training, these data provide feedback as to the effectiveness of trainer intervention. Typically, when a client is initially placed there is a higher amount and greater degree of trainer assistance required to facilitate the adjustment. These prompts generally diminish as the trainer gradually reduces his/her physical proximity and subsequent cueing.

Table 3-3 indicates the data sheet we use to record level of assistance assessment.

Insert Table 3-3 About Here

Supervisor Evaluation

The supervisor evaluation which follows in Table 3-4 is a routine yet surprising sensitive predictor of client performance and job future. This form of evaluation also provides feedback as to the perceived relationship which the employer has of Academy staff and the program. This is a particularly good indicator for evaluating when the employer feels a client is ready to leave the extended training phase and be officially hired.

Insert Table 3-4 About Here

Related Types of Evaluation

Although the above assessments are useful in evaluation of client job performance there are also two other modes of data collection which may be used. These involve: (1) assessment of the level and function of social interactions between visually impaired workers which we have placed and nondisabled workers in the same work area and (2) a cumulative record of wages earned and absenteeism rate. These forms are shown in Tables 3-5 and 3-6, respectively.

- - - - - - - - - - - - - - - - - - - -
Insert Tables 3-5 and 3-6 About Here
- - - - - - - - - - - - - - - - - - - -

Motivational Wage Work Program Guidelines

The guidelines for the Academy's Motivational Wage Work Program are presented below to illustrate one step in the competitive employment training process. This program started when a committee of local citizens, students, faculty, and staff from the Academy organized to assist in the implementation of an employment for students at the Academy in response to a gift from Ways and Means for the Blind, Inc. The goal of the program is to provide students with on-campus vocational training and job experience. An effort is made to provide as many realistic working situations for as many students as possible.

Duties of Job Coordinator and Job Supervisor

The job coordinator identifies, coordinates and supervises job opportunities on the Vineville Campus. The job coordinator acts as liaison to the business manager for the activities on the Shurling Campus. The job coordinator takes the responsibility to work with supervisors of children on the Motivational Wage Work Program and sees that forms are properly and timely submitted. The job supervisor is responsible for assessing the quality and quantity of work for each child assigned to that supervisor's work station.

Student Evaluation and Pay

Students in the program are paid and adhere to the regulations established for the other work projects at the Academy (e.g., Metal Salvage Project). Their pay period is semi-monthly to be paid the 1st and 16th of each month. Should the day for payment fall on a non-working day, the following first work day becomes the date for payment. Students are paid according to their quality and quantity of work, as rated by their supervisor. There are ten rating areas and a possibility of ten points in each area every hour. A student may earn up to $1.00 per hour. Each point corresponds to a penny earned a particular hour. Tables 3-7 and 3-8 show the rating scale used in the program. Immediately prior to the 16th and the last working day of each month, the supervisor is required to send the coordinator a roster listing the name and amount to be paid each student. The job coordinator compiles the rosters to be submitted to the Academy business office. After approval from the superintendent and signatures of the superintendent and business manager on the student's checks, the job coordinator delivers the checks to the job supervisor who issues them to the students.

Insert Tables 3-7 and 3-8 About Here

Selection of Job Stations

On campus jobs are cited by the job coordinator with the assistance of the Committee. Jobs are established on the basis of need for the benefit of the Academy.

Selection of Students

Students who live in the intermediate and senior cottages are eligible for jobs on the Vineville campus. Teachers and houseparents rank order students for jobs. The student with the highest rating has first choice of the jobs available; the students with the second highest rating has second choice, etc. Each student's supervisor discusses their rating with them prior to each pay period. Students rotate jobs each six weeks or at the discretion of job coordinator. Job priority is given to the students with the best performance rating. Rotation of jobs for students on the Shurling campus is at the discretion of the education supervisor of that campus. The academic supervisor on the Shurling campus makes job assignments for students on that campus in conjunction with the members of the Committee from the Shurling campus.

Work Hours

Students are allowed to work up to five hours per week.

Progression of Work Stages

A progression of work stages has been established by the Motivational Wage Work Program. The first stage is student participation in the Metal Salvage Work Program. Students are paid on the same basis in this workshop as they are in the Motivational Wage Work Program. The second stage is a job location on campus other than in the workshop area. A student is promoted from stage to stage according to the quantity and quality of his or her work. Once his or her work averages $1 per hour for two weeks, he or she will be eligible for promotion, provided a job is available. The third work stage is the Comprehensive Employment Training Act (CETA) job positions. The fourth stage is community jobs. It is most desirable that the stages be followed in sequence, although the stages are flexible and can be altered at the discretion of the job coordinator. The Motivational Wage Work Program on the Shurling campus differs from the stages mentioned above. The education supervisor on the Shurling campus uses his or her discretion in conjunction with the members of the Committee from the Shurling campus for the management of the program on the Shurling campus when the program would not prosper according to the established procedures.

Table 3-1

The Effects of Employment on Supplemental Security Income (SSI)

When a disabled person who is receiving S.S.I. benefits takes a job, the federal government does not view this person as suddenly rehabilitated or no longer requiring benefits, but rather, the disabled person is viewed as "working regardless of his or her impairment." This is an important statement because it indicates that the government is well aware that this person is still disabled and that if the current job does not work out, the handicapped individual may again require S.S.I. benefits. In fact, the government automatically sets aside a 9 to 12 month job adjustment period during which the benefits can be quickly reinstated (within 10 to 20 days) if the person's new job is terminated for whatever reasons. This grace period indicates that the government encourages the handicapped individual to try to hold down a job, but it also realizes that a handicapped person is handicapped for life. The government, therefore, understands that if job requirements change and the person loses the job, he or she may again require and fully deserve S.S.I. benefits. However, if the job is lost after a 12-month period, the disabled person must reapply for benefits. Reinstatement of benefits would then require approximately 3 months before a check would be received. It would be wise for the disabled working person to save a small portion of his/her earnings each month in the event that the job would be lost after the 12-month adjustment in order to carry the person through this possible 3-month period of no income.

What must be done regarding S.S.I. when the disabled person is employed?

> The local social security office must be notified immediately regarding this change in employment status. The easiest way of accomplishing this is to obtain a statement from the employer describing the new employee's hours of work per week and the rate of pay per week. Project Employability staff will arrange for this statement. The statement must be taken to any local social security office in order that the benefits can be reexamined in view of this information. The next monthly check should be reduced. If it is not, notify the social security office immediately to find out why the reduction did not occur. The social security office may have "overpaid" you and, if so, it will request that the overpaid amount be returned later. Therefore, be certain that the first check received after employment is reduced.

Table 3-1 (Cont'd)

Will the handicapped person lose all S.S.I. benefits due to employment?

> S.S.I. benefits are reduced according to a person's income. Handicapped persons can earn income without losing all benefits ($65 to $85 in earnings per month are allowed before any reduction); however, if the person holds down a full-time job at minimum wage, the benefits will probably be reduced to zero for as long as the person remains on the job. When the social security office receives the statement from the employer regarding earnings, a reviewer will figure the necessary reductions to the current S.S.I. payment. Remember, the check can be increased rapidly if the job is terminated by simply notifying the local social security office.

How does employment affect Medicaid?

> As long as the new employee remains eligible for some reduced portion of S.S.I. payments, even if only a few dollars a month, the person will still receive Medicaid benefits. Thus, a person who is working full-time will probably no longer be eligible for S.S.I. or Medicaid while he/she remains on the job. However, again, both benefits can be regained if the person leaves or is terminated from the job. In addition, Project Employability only places disabled persons in jobs where they receive full medical benefits with a full-time position; therefore, the loss of Medicaid benefits while working with insurance should not alter the person's medical coverage. In fact, a good medical insurance plan gained through employment provides equal or better medical coverage for the working individual.

What are the financial benefits of employment vs. the receipt of S.S.I. benefits?

1. If full-time employment is gained, even at minimum wage, the employee's income will increase from the maximum S.S.I. benefit of $189.40 to at least $424.00 per month (gross salary) and full medical insurance coverage is provided.

2. If part-time employment is obtained, some portion of the S.S.I. payment will continue each month and Medicaid benefits will also continue. Therefore, the employee will receive salary and S.S.I. payments.

3. With employment, the disabled person becomes eligible for regular social security income in the future due to his/her contributions from earnings.

Table 3-2

Sample of Work Regularity
Percent Time On-Task

Trainee: ______________________ Job Site: ______________________

Evaluator: ______________________ Job Title: ______________________

	Observation Period	Time Start	Time End	Per Cent Time (in sec.) On-Task / Total Time	Percent Time On-Task	Job(s) or Activity(ies)
MONDAY Date:	I.					
	II.					
	III.					
	IV.					
				Daily Tot.: /	Daily Avg.:	
TUESDAY Date:	I.					
	II.					
	III.					
	IV.					
				Daily Tot.: /	Daily Avg.:	
WEDNESDAY Date:	I.					
	II.					
	III.					
	IV.					
				Daily Tot.: /	Daily Avg.:	
THURSDAY Date:	I.					
	II.					
	III.					
	IV.					
				Daily Tot.: /	Daily Avg.:	
FRIDAY Date:	I.					
	II.					
	III.					
	IV.					
				Daily Tot.: /	Daily Avg.:	
WEEK END				WEEKLY TOTALS: /	WEEKLY AVERAGE:	

Definitions:

On-Task: ______________________

Off-Task: ______________________

Table 3-3

Levels of Assistance Required for Job Completion and Proficiency

Trainee: ______________________ Job Site: ______________________

Trainer: ______________________ Job Title: ______________________

Indicate the # of Prompts used and Physical Proximity from the trainee by placing the appropriate Distance Code under the correct Prompt column each time a prompt is used.

Distance Code
A = Trainer Within 3 Ft. (Arms reach)
B = Trainer 4 to 10 Ft. away
C = Trainer over 10 Ft. away

Observation Interval	Date	Time Start/ End	Verbal Cue Only	Verbal Cue and Gesture	Verbal Cue and Model	Verbal Cue and Physical Prompt	No Prompt Given
I							
Specific Problem Area(s)--→							
II							
Specific Problem Area(s)--→							
III							
Specific Problem Area(s)--→							
IV							
Specific Problem Area(s)--→							
I							
Specific Problem Area(s)--→							
II							
Specific Problem Area(s)--→							
III							
Specific Problem Area(s)--→							
IV							
Specific Problem Area(s)--→							
I							
Specific Problem Area(s)--→							
II							
Specific Problem Area(s)--→							
III							
Specific Problem Area(s)--→							
IV							
Specific Problem Area(s)--→							
Daily Totals:							

Table 3-4

Supervisor's Evaluation Form

TRAINEE/EMPLOYEE'S NAME: ______________________
JOB TITLE: ______________________
JOB SITE: ______________________
JOB COORDINATOR: ______________________

DATE OF PLACEMENT: ____________
DATE HIRED: ____________
CURRENT DATE: ____________

PLEASE CIRCLE ALL ITEMS WHICH APPLY TO THE TRAINEE/EMPLOYEE:

1. The employee (a) generally arrives and leaves on time
   (b) maintains good attendance
   (c) takes meals and breaks appropriately
   (d) maintains a good appearance

   Comments on un-circled items: ______________________
   ____

2. The employee has: (a) mastered all aspects of present job
   (b) mastered many but not all aspects of job
   (c) not mastered essential aspects of job to date

3. In order for the employee to follow directions regarding the job, the supervisor: (a) can just give verbal instructions
   (b) has to give many gestures as well as verbal instructions
   (c) has to show the employee exactly what to do before he/she knows what to do

4. **Project staff if present:** (a) too often
   (b) too little according to the employee's needs
   (c) an appropriate amount of time

5. This employee: (a) frequently stops work and needs to be reminded to return to work
   (b) stops working occasionally but no more than other employees
   (c) works at a constant rate without reminders

6. The employee is: (a) a good worker
   (b) an average worker
   (c) a below average worker

7. Does the Project staff in any way interfere with your supervision or plans for the employee? (a) no (b) yes (if yes, please briefly describe)
   ____
   ____

Other comments: ______________________
____
____

Table 3-5

Interactions Between Handicapped Workers
And Non-Handicapped Individuals in Competitive Employment

Name: ______________________________

Interaction Initiated By	Emphasis of Interaction	Proximity	Type of Interaction
A - Handicapped Worker	A - Instruction	A - Physical Contact	A - Verbal
B - Non-Handicapped Co-Worker	B - Social (Work-Related)	B - Within 4'	B - Gesture
C - Other Non-Handicapped Individual	C - Social (Non-Work-Related	C - 4'-10'	C - Model
D - Supervisor	D - Harrassment	D - Over 10'	D - Physical

Date:														
Time:														
Interaction Initiated By	A	()	()	()	()	()	()	()	()	()	()	()	()	()
	B	()	()	()	()	()	()	()	()	()	()	()	()	()
(Talley Number of	C	()	()	()	()	()	()	()	()	()	()	()	()	()
Interactions Here)	D	()	()	()	()	()	()	()	()	()	()	()	()	()
Emphasis of Interaction	A	()	()	()	()	()	()	()	()	()	()	()	()	()
	B	()	()	()	()	()	()	()	()	()	()	()	()	()
	C	()	()	()	()	()	()	()	()	()	()	()	()	()
	D	()	()	()	()	()	()	()	()	()	()	()	()	()
Proximity	A	()	()	()	()	()	()	()	()	()	()	()	()	()
	B	()	()	()	()	()	()	()	()	()	()	()	()	()
	C	()	()	()	()	()	()	()	()	()	()	()	()	()
	D	()	()	()	()	()	()	()	()	()	()	()	()	()
Type of Interaction	A	()	()	()	()	()	()	()	()	()	()	()	()	()
	B	()	()	()	()	()	()	()	()	()	()	()	()	()
	C	()	()	()	()	()	()	()	()	()	()	()	()	()
	D	()	()	()	()	()	()	()	()	()	()	()	()	()
Date:														
Time:														
Interactio Initiated By	A	()	()	()	()	()	()	()	()	()	()	()	()	()
	B	()	()	()	()	()	()	()	()	()	()	()	()	()
(Talley Number of	C	()	()	()	()	()	()	()	()	()	()	()	()	()
Interactions here)	D	()	()	()	()	()	()	()	()	()	()	()	()	()
Emphasis of Interaction	A	()	()	()	()	()	()	()	()	()	()	()	()	()
	B	()	()	()	()	()	()	()	()	()	()	()	()	()
	C	()	()	()	()	()	()	()	()	()	()	()	()	()
	D	()	()	()	()	()	()	()	()	()	()	()	()	()
Proximity	A	()	()	()	()	()	()	()	()	()	()	()	()	()
	B	()	()	()	()	()	()	()	()	()	()	()	()	()
	C	()	()	()	()	()	()	()	()	()	()	()	()	()
	D	()	()	()	()	()	()	()	()	()	()	()	()	()
Type of Interaction	A	()	()	()	()	()	()	()	()	()	()	()	()	()
	B	()	()	()	()	()	()	()	()	()	()	()	()	()
	C	()	()	()	()	()	()	()	()	()	()	()	()	()
	D	()	()	()	()	()	()	()	()	()	()	()	()	()

Table 3-6

Monthly Financial Summary

Job Coordinator:____________________ Job Site:____________________

AME:	MONTH	ABSENCES	DAYS WORKED	MONTHLY EARNINGS	PREVIOUS FINANCIAL AID MONTHLY PAYMENTS	INCREASE IN MONTHLY INCOME THROUGH EMPLOYMENT	PRESENT MONTHLY FINANCIAL AID	TAXPAYERS SAVINGS PER MONTH
ONTHLY OMBINED OTALS:								
ONTHLY OMBINED OTALS:								
ONTHLY OMBINED OTALS:								

Table 3-7

Georgia Academy for the Blind
Work Performance Rating Scale

RATING FACTORS	EXCELLENT 10 9	8 7	6 5	4 3	2 1 0
Quantity of work	Consistently high production	Often exceeds minimum requirements	Does minimum required	Does less than minumum required	Amount unsatisfactory
Quality of work	Consistently high quality	Often exceeds minimum requirements	Minimum acceptable required	Frequently under minimum acceptable quality	Not acceptable
Punctuality	Always punctual	Almost always punctual	Usually punctual	Seldom punctual	Not punctual
Tolerance for Work Period	Full work period	3/4 of work period	1/2 of work period	1/4 of work period	Less than 1/4 of work period
Ability to work under Production Pressure	Works well under pressure	Some deterioration of performance under pressure	Significant deterioration of performance under pressure	Maintains work station but production negligible	Cannot maintain work station
Response to Instruction	Retains complex instructions well	Retains simple instructions - occasionally unable to retain complex instructions	Retains simple instructions - unable to retain complex instructions	Unable to retain simple instructions without repetition	Unable to retain instructions
Relationship to Supervisor	Always cooperates - accepts all types of supervision	Often cooperative	Occasionally non-cooperative	Often non-cooperative	Makes no attempt to cooperate
Relationship to Co-Workers	Always cooperative and helpful	Often cooperative	Does not extend beyond job requirements	Occasionally disruptive	Often disruptive in work force
Personal Appearance	Always appropriately dressed and clean	Neat and usually clean	Occasionally neglects hygiene and appearance	Usually neglects appearance and hygiene	Gives no concern to hygiene nor appearance
Safety Awareness and Habits	Extremely safety conscious	Upholds safety rules and regulations	Seldom neglects safety rules and regulations	Often neglects safety rules and regulations	Disobeys safety rules and regulations

Table 3-8

Georgia Academy for the Blind
Rating Form

Student's Name____________________ Period Rated From ________ to ________

Job Title____________________ Job Station____________________

													Total Pts.
Quantity of work													
Quality of work													
Punctuality													
Tolerance for work period													
Ability to work under pressure													
Response to instructions													
Relationship to supervisor													
Relationship to co-workers													
Personal appearance													
Safety awareness and habits													
TOTAL POINTS													

Days Present__________ Total Points__________

Hours Worked__________

Average hourly rate__________ Amount paid to student__________

Supervisor's signature Date

Remarks:

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CHAPTER FOUR

VOCATIONAL EVALUATION

VOCATIONAL EVALUATION

Vocational evaluation, as an assessment of inherent potential, identifies an individual's assets and liabilities. It is not proposed that this evaluation mechanism supplant traditional assessment programs developed for visually impaired individuals. Data resulting from vocational evaluation should be used to complement, and subsequently expand, the direction of existing information in order that realistic vocational training plans can be developed for this population. The primary objective of vocational evaluation is to provide an assessment technique that will identify vocational potential.

Evaluating the vocational needs of visually impaired individuals is a critical part of vocational preparation. Accurate evaluation information provides an opportunity to develop individualized vocational plans within the vocational program. Evaluation information further serves to assist teachers in expanding their vocational curriculum to meet individual client needs and potential. Effective vocational preparation of visually impaired individuals is dependent on teachers having functional knowledge of vocational evaluation techniques and tools.

Vocational evaluation is defined as a process designed to assess and predict work behavior and vocational potential, primarily through the application of a variety of practical techniques and procedures. This definition implies that information gained through vocational evaluation is useful both for short-term and long-term planning.

Specifically, vocational potential may relate to such factors and characteristics as:

> specific and general skills and abilities, aptitudes and interests, personality and temperament, values and attitudes, motivation and needs, physical capacity and work tolerance, educability and trainability, social skills and work habits, work adjustment and employability, placeability and rehabilitation/habilitation potential. (Pruitt, 1977, p. 4)

Effective use of vocational evaluation procedures enables teachers of the visually impaired to assess current performance levels, to set long-range expectations, and to develop the needed activities and short-term goals that will allow students to reach their vocational potential.

The vocational evaluation can consist of four general categories of activities. These activities are as follows:

Clinical Assessment
↓
Laboratory Work Samples
↓
Work Experience Evaluation
↓
Work Tryouts

These activities will be discussed in detail later in this chapter. It is important, however, that vocational evaluation is an ongoing process. The initial evaluation serves only to establish a baseline of information and a working plan to be used by teachers and students in setting up individualized vocational programs with flexible short-term and long-term goals. These goals can be changed based on performance and need. Vocational evaluation activities can be used effectively at any point in the visually impaired student's vocational preparation.

It is also important to note that the vocational evaluation is most effective when training is incorporated into the evaluation activities. Many visually impaired individuals enter vocational preparation with very limited vocational exposure. Their entry level behaviors are frequently deficient in terms of the attitudes and skills needed to readily demonstrate, without special considerations, their full vocational preparation. Societal expectations on the limited vocational potential of the visually impaired have isolated these individuals from activities that would enhance their early vocational preparation.

Thus, vocational evaluation serves one primary purpose: to significantly enhance the opportunities visually impaired individuals have to become employed at their full potential level of performance. This purpose is accomplished through providing ongoing information on the vocational development, needs and potentials of the individual student. The remainder of this chapter will provide special education teachers and other vocational practitioners with the information they need to effectively set up short-term and long-term vocational goals through use of the vocational evaluation.

Clinical Assessment

Evaluating the vocational needs of visually impaired individuals is a multi-step procedure. It is important that students receive a full evaluation at the time they initially enter the vocational phase of their program. A comprehensive vocational evaluation can provide information on training methods, curriculum needs, supportive services needed as part of the vocational preparation of an individual student, attitudes and behaviors, and predicted vocational potential and limits. However vocational evaluation tools can also be used selectively and individually at critical points in an individual's vocational preparation even at the time of job placement. It must be emphasized that the vocational evaluation tools should be used individually and collectively as appropriate for the individual student.

As a total predictive process, vocational evaluation involves the four previously mentioned categories of activities. Clinical assessment usually precedes all other testing because it provides information which narrows the range of testing that follows it. Since testing must be limited to appropriate tests which provide essential information, clinical assessment usually covers the following categories:

1. Intelligence
2. Academic Achievement
3. Character and Personality
4. Aptitude
5. Interests
6. Motor Functioning and Manual Dexterity

In order to fully understand the individual, his/her disability and his/her performance capabilities, the information gained from clinical assessment is crucial.

Essentially, the Clinical Assessment of the visually impaired individual provides the examiner with a variety of information which precedes the actual samples of work. Measurement of learning capacities, interests and potential growth as well as an assessment of physical, mental, emotional or environmental factors must be made before work performance is examined or a vocational objective is established. Once these factors are determined, the examiner is ready for the evaluation or work potential in a laboratory setting. Here, the student is able to sample varieties of work and both the examiner and the client can explore the possibilities for future employment.

Laboratory Work Samples

Work samples represent an important component of the vocational evaluation process. As a close simulation of the tasks required in business, industry or a specific vocational area, work samples can be useful in assessing vocational strengths, aptitudes, interests and limitations in order to lend realism as a vocational guidance tool.

Work samples can produce useful evaluation data for predicting vocational potential. Work samples emphasize psychomotor skills rather than verbal abilities, they can produce feedback relative to the practically based hands-on activities in a short period of time, and they provide direct information relating to the individual's performance level and enthusiasm.

Vocational laboratory evaluation usually employs work samples which have been designed to measure student interest, proficiency and capacity for sustained concentration in performing set exercises that parallel actual competitive and sheltered employment. Ideally, these exercises should be standardized against a population similar to that for which the tests will be used. The lack of this standardization is one of the several factors which minimize the validity of laboratory evaluations with visually impaired clients.

Objectively scored work samples insure impartiality and uniform application. In addition, scores may be compared to the standards of a population different from the test subject to determine the quality of his or her performance in a competitive situation. An example of this would involve a comparison between the performance of a visually impaired individual with that of a normal population to ascertain whether or not the test subject has the skills necessary to compete with nonhandicapped peers.

A variety of commercially prepared work samples are available. They are based on cluster-trait samples and single-trait samples. Cluster-trait samples use one activity to measure a variety of vocational factors essential to many occupations. Single-traits samples are based on one vocational activity and measures all the qualities necessary for successful performance in that vocation.

Selection of the proper commercial system should take into consideration:

1. the range of jobs available in the community and the scope of jobs represented in the work sample;

2. validity and reliability for the client population to be served;
3. purpose of the evaluation;
    (a) occupational information through a hands-on experience,
    (b) assessment of present skills and aptitudes without relating information to career functions,
    (c) a thorough evaluation of student aptitudes and work behaviors,
    (d) occupational information and dissemination,
    (e) occupational exploration.

It must be remembered that no one system will meet all needs--and they are expensive. A brief look at selected commercial systems follows:

VIEWS - Vocational Information and Evaluation Work Samples

The Jewish Employment and Vocational Service of Philadelphia has developed this system specifically to evaluate moderately to severely handicapped populations. It is a battery of hands-on, job-related work samples which simulate a work environment. One important feature as an evaluation tool is that VIEWS distinquishes between acquisition of learned material and production. Research indicates that non-motor abilities are important during the early stages of learning, but once learned, differences in non-motor abilities do not affect the production of a task (Gold, 1975). Therefore, this system with its 16 work samples from four basic work areas seeks to locate the highest level of production at which a handicapped students is capable of functioning.

The work samples are grouped into three categories: (1) elemental work area; (2) machine area; (3) clerical area; and (4) crafts area. The work samples relate to the worker trait groups identified in the Dictionary of Occupational Titles.

The work samples are administered from the least complex tasks to more complex tasks. Directions are given orally and demonstrations are also used in order to be certain that the trainee fully comprehends the work sample instructions; therefore, no reading is required.

The trainee is timed from the moment the work sample exercise begins until the task has been completed. Scoring is based on a three point scale relating to time and quality standards. A period of 20 to 30 hours is generally needed to administer the entire series of work samples.

The norm base used for this battery was a population consisting of 104 developmentally disabled individuals, with a median I.Q. of 50, who ranged in age from 16 to 61 (Botterbusch, 1977). No reliability or validity data are available.

The Tower System

Sponsored by the Vocational Rehabilitation Administration and the Institute for the Crippled and Disabled Rehabilitation and Research Center (I.C.D.) in New York City, the Towers System is designed for the physically and emotionally disabled. By analyzing various jobs, work samples are grouped into 14 major areas of training.

As the oldest vocational evaluation system for use with handicapped populations, this battery categorizes 93 work samples into the following training areas: (1) clerical; (2) drafting; (3) drawing; (4) electronics assembly; (5) jewelry manufacturing; (6) leathergoods; (7) machine shop; (8) lettering; (9) mail clerk; (10) optical mechanics; (11) pantograph engraving; (12) sewing machine operating; (13) welding; and (14) workshop assembly.

The trainee, upon completion of a preliminary screening procedure to document pertinent medical, psychological and intellectual information, is placed into one of the 14 job training areas according to interest and/or a planning session with the evaluator. Advancement of job tasks within a specific job training area is progressive; however, trainees generally do not complete all the work samples in the battery.

The trainee begins the job task after receiving procedural instructions from the evaluator, although no specific timing procedure is utilized. Evaluators weight the scores in terms of time and quality. Ratings, awarded according to the number of errors, are based on a five-point scale.

Before a system is purchased by a facility, potential evaluators must attend a three week training course. This workshop provides information relative to establishing the evaluation unit and conducting the evaluation sessions.

The population for norming this battery consisted of ICD clients, although no information is provided regarding sample size, specific characteristics of the sample, industrial norms or reliability data.

The validity of this sytem was the focus of a study conducted by Rosenberg in 1967. The results of this study did not positively lend themselves to establishing criterion reliability (Halpern, 1978).

The Singer Vocational Evaluation System

This is a series of hands-on work samples developed by the Singer Corporation to measure performance on job related tasks. Instructions are provided through ear phones and slides. Physically disabled and mildly retarded students can handle some work samples which relate to specific jobs. It is a useful system of job exploration techniques.

This system consists of 20 independent work samples. These samples include: (1) sample making; (2) bench assembly; (3) drafting; (4) electrical wiring; (5) plumbing and pipefitting; (6) carpentry; (7) refrigeration, heating and air conditioning; (8) soldering and welding; (9) office and sales clerk; (10) needle trades; (11) masonry; (12) sheet metal; (13) cooking and baking; (14) engine service; (15) medical service; (16) cosmetology; (17) data calculation and recording; (18) soil testing; (19) photolab technician; and (20) production machine operator.

There are no rigid time limitations imposed by this battery. The usual time allotment for evaluation is approximately seven days, although three weeks may be necessary if all 20 work samples are to be used.

The evaluator rates the trainee on a five-point scale relative to time and quality norms. Twenty-nine work factors are incorporated into the system. Specified factors are observed in various work samples and the results can be related to more than 1,000 job areas described in the Dictionary of Occupational Titles.

Inadequate information is available relative to the norm base for this sytem. The evaluator is not provided with any data relating to industrial norms, reliability or validity.

The Hester System

Developed by Goodwill Industries of Chicago, this system is designed to measure physically and mentally handicapped rehabilitation clients. It is based on the Dictionary of Occupational Titles and is a battery of psychological tests designed to relate student scores to the D.O.T. Twenty-eight pure factor performance and paper and pencil scores are grouped into the following seven categories on a computer print out: (1) unilateral motor ability; (2) intelligence; (3) perceptual-motor coordination; (4) perceptual; (5) bilateral motor ability; (6) physical strength; and (7) reading and mathematics achievement levels.

This evaluation system can be administered in approximately five hours. Instructions are given to the trainee orally and demonstrations are used to make certain that individuals comprehend the directions for the tests.

The administrator times the trainee. The score is assigned by computer according to the time required to complete the task and/or the number of correct responses completed during a specific time period.

There are no data available relative to the population used as a norm group for this evaluation system. Data regarding reliability and validity are availabl

The McCarron-Dial Work Evaluation System

This system utilizes 17 instruments which collect data grouped into the following areas: (1) verbal-cognitive; (2) emotional; (3) motor abilities; (fine motor and gross motor assessment); (4) sensory; and (5) integration-coping.

This evaluation system was specifically developed for use with mentally retarded and mentally ill populations. The work samples are administered during a two week period of time if all five factors are to be assessed.

All instructions are given to the trainee orally and demonstrations are also allowed in order to make certain that the examinee fully understands the task directions. Few of the work samples are timed; no time norms are available.

Scoring is assigned according to the quality of work performance on each task. Scores are documented on a client profile after the scores have been converted into percentile scores.

The data resulting from this system provides information relating to the trainee's aptitudes in the following program areas: (1) extended sheltered employment; (2) work activity experiences; (3) transitional sheltered employment; (4) community placement and employment; and (5) day care experiences (Botterbusch, 1976).

Data pertinent to work sample norms werebased on a population of 200 developmentally disabled adults. Norms were determined in sheltered workshop and supervised community employment environments. There are no data available relative to the reliability of this system. Positive results are reported regarding the validity of this battery.

Valpar Component Work Sample Series

While this system was designed more for the industrially injured than for the visually impaired, it is a well executed series of work samples based on a trait and factor approach. Developed by the Valpar Corporation in Tucson, Arizona, this system consists of the following work samples: (1) small tools (mechanical); (2) size discrimination; (3) numerical sorting; (4) upper extremity range of motion; (5) clerical comprehension and aptitude; (6) independent problem solving; (7) eye-hand-foot coordination; (8) simulated assembly; (9) multi-level sorting; (10) whole body range of motion; (11) tri-level measurement and (12) soldering.

If all of the components are used as a total vocational evaluation system, 12 to 15 hours is usually necessary. However, each work sample is self contained and components can be used independent of each other.

All instructions regarding work sample performance are oral and demonstrations are included. Reading is not a general requirement, except in a case where the words are implicit in the work task.

Clients are timed from the point of initial instructions to the point at which the task is completed. A total score for the client represents a combination of time and error scores which reflect both performance, quality, and quantity.

Norms are available for sheltered workshop clients. Most work samples in this system have been tested for reliability; the results have reportedly been good. There are no validity data available. The Valpar system has recently introduced overlays that can be placed on top of the components in order that visually impaired clients can perform the work samples in this system.

Work Experience Evaluation

The clinical assessment and laboratory work sample phases of the vocational evaluation provide a significant base of information for use in determining the vocational needs and potential of the visually impaired. It is important however that performance in simulated and actual work settings be viewed as an integral part of the total vocational evaluation. The use of work experience as an evaluation tool is especially important to the classroom teacher whose access to many of the testing procedures reviewed in the discussion of clinical assessment and laboratory work samples might be limited by time, funding, personnel, or procedural problems. The use of work experience in the vocational evaluation also serves a very useful purpose in terms of the students' attitude toward testing. Including work experience in the evaluation process can serve as a concrete behavior for the evaluatee.

Job Sampling

Two primary parts of the work experience evaluation are job samples and situational assessment. Job samples differ from the previously discussed work samples in that job samples are replications of actual job tasks available in the community. For example, a local industry has an ongoing assembly task which has job potential for visually impaired individuals. Replicating the assembly task within the classroom for purposes of evaluation and training would serve as a job sample. Job samples which are based on a formal job analysis have the most evaluation potential because of their significantly greater potential for being valid approximations of what occurs in the community. Formal job samples are developed through the following steps:

1) community job survey
2) job analysis
3) completion of job sample
4) norming the job samples

5) completion of manual for job sample
6) administration and evaluation of information gained from job sample.

Job sampling has numerous uses in the classroom. Job stations can be set up by replicating jobs in the community potentially available to visually impaired students. For example, a job sample for custodial work could be developed making use of equipment such as floor buffers, vacuums, and mops. Tasks can be defined which replicate commercial use of this equipment, and the evaluation procedure would include training the student in the required task to a criterion level of performance. Job samples can be developed from general trade areas and also from specific tasks which are performed in the community. Job samples have face validity to the student and the information gained through their use can be readily applied to both short and long range programing.

The Dictionary of Occupational Titles (DOT) can be a great help in developing job samples. This resource, published by the U.S. Department of Labor, can be a useful reference in the process of job analysis and developing work samples. Many of the worker trait groups identified in commercially prepared vocational evaluation systems are directly related to jobs in the DOT.

The DOT is the most comprehensive source of occupational information available. This dictionary sequentially identifies and lists jobs found in the workforce. Organized in three volumes the first book lists in alphabetical order 35,550 job titles which represent 21,741 occupations.

The Dot can be helpful in the process of developing and implementing job sampling activities. The Dot information will report work being done within a specific job title, how the work is done and why the work is necessary. In addition, a detailed profile of the occupation can be developed through information relative to aptitudes and interests necessary for the job, required levels of functioning ability, physical demands and working conditions relevant to the job. Table 4-1 has the DOT entry for the job of kitchen helper.

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Situational Assessment

Within the realm of identifying an individual's aptitudes, the situational assessment technique is perhaps the dominant approach. This method of evaluation consists of observing individual's performing on real or simulated work tasks in a group situation. In some cases situational assessment is used to observe specific aptitudes or work habits; in other cases, this method is used to observe overall vocational aptitudes (Pruitt, 1977). The information gained from this source should be used cooperatively with other pertinent data in order to develop realistic vocational training plans.

One advantage of situational assessment is that the approach allows for the observation of a greater number of appropriate worker traits and behaviors than can be seen with the use of job samples. These behaviors are also demonstrated in a more natural and relaxed environment than a timed work sample or a formal standardized testing situation (Brolin, 1976).

For example, a visually impaired student might want to be an office clerk. A situational assessment activity could be set up in the school office or possibly in a neighboring business or industry office. The student would be placed in the office for a specified amount of time in defined job areas. In this example, information would be gained on the student's work attitude towards this task and setting, modifications which might be needed to facilitate performance, additional training or specialization which will be required to reach a more competitive level of performance, and the reaction of the employed office workers to the student. The evaluator would primarily observe the student's performance. Intervention could take place where needed to assist in performance in areas such as training, mobility, and physical modifications of the work area. However, the primary purpose of situational assessment is to provide the evaluator with the opportunity to observe performance in an actual work setting. The Motivational Wage Work Program described in chapter three can be used for situational assessment.

As in the case of job samples, situational assessment provides the trainee with activities whose relationship to vocational concerns can be readily experienced. Again, the readily seen meaningfulness of these activities provides important motivational influences. A student can be placed in varied settings for situational assessments with limited costs for equipment and materials. The world of work and the importance of the evaluation is directly experienced, and as information is gained about the student's work behaviors and skills, situations which meet individual needs can be established. The situational assessment provides both learning experiences for the trainee and indications of further evaluation and training needs.

The positive aspect of this approach is that situational assessment can take place in a variety of situations. Sites for assessment can be selected according to the work environment relative to a specific job. Opportunities to establish situational assessment activities can be found in institutional facilities or schools. They may also be based in the community.

During the process of situational assessment, several factors relative to a client's work performance are observed. These factors include specific work skills, work personality, perseverance, and work tolerance. Inferences are also made regarding worker attitudes and values (Pruitt, 1977).

More time can be allowed for situational assessment activities than is normally allowed for commercial work sample batteries. Therefore, a more precise profile of client abilities can be developed in order that a realistic vocational plan can be formulated.

Situational assessment can also be observed while clients are working on contracts that have been obtained from industry. While clients are working on the tasks involved in completing the contract, the teacher or evaluator can observe the owrk performance of the individual performing the tasks. This procedure can accomplish two objectives: (a) providing visually impaired individuals with actual work related experiences found in industry, and (b) allowing the teacher or evaluator to formulate an informal, profile of the individual's psychomotor abilities and interpersonal relationship level.

Work Tryouts

The final phase of vocational evaluation to be discussed is work tryouts. Work tryouts are placements in the community under the conditions normally associated with a specific job. Work tryouts include formal follow-along activities to assure that the trainee is given an accurate performance assessment and a fair opportunity to perform. The motivating features of job tryouts for visually impaired students can be readily seen both in terms of the relevancy of the evaluation experience and the opportunity to demonstrate skills in an actual work setting. Another very positive featuer of work tryouts is the effect high levels of performance by these students can have on attitudes of employers towards certain disability groups. For example, visually impaired individuals are frequently excluded from the job market because of societal attitudes. A student with a visual impairment can be placed in a work tryout with a potential employer. The student would have the opportunity to demonstrate that the job can be completed at a competitive level and that the visual handicap can be compensated for without injury or liability. Work tryouts also provide information on a student's current level of interest in a particular job area, production level, work attitude, and need for further preparation.

Contributions of the Vocational Evaluation Process

Vocational evaluation is the comprehensive process of using real or simulated job samples to gather pertinent data relative to an individual's vocational aptitudes and interests. This information is necessary in order to develop realistic vocational training plans for handicapped individuals.

A functional knowledge of the procedures and tools involved in evaluating vocational needs and potential is an important asset for teachers of the visually impaired. Positive evaluation results can greatly enhance both the vocational opportunities available to students and also the attitude and expectations of trainers. There are a number of principles which, when applied to the evaluation of the visually impaired will facilitate student performance. These principles are listed below.

1) It should be understood by teachers that the job sample phase of an evaluation is made up of tasks that usually must be learned by many visually impaired students before evaluation of performance can be accurately completed.
2) Because of the limited vocational exposure of many visually impaired students, many necessary prerequisite behaviors might not be a part of the student's behavior repertoire, i.e., tool usage, attending behavior, or positioning at the work bench.
3) The completion of the task might not be, in itself, reinforcing to the student; reinforcers should be identified that are shown

to be effective, i.e., that their usage results in an increase in desired behavior.

4) Precision teaching techniques are frequently needed to teach a student how to perform the job sample task.

5) Statements on productivity and resulting decisions on employability cannot be accurately attempted until the student demonstrates learning through reaching a criterion level of performance as measured by a data-based information gathering system.

6) When a student fails to learn an assigned evaluation task, the teacher should identify the external variables, including environmental distractions, ineffective teaching methods, and lack of appropriate reinforcement contingencies which might be adversely affecting performance. It should not be decided that failure is a result of internal limitations until manipulation of external variables has been exhausted.

The implication leading from these principles is that the evaluation period should be used as a time of exploration and training. Careful attention to these principles during the vocational evaluation will give significantly greater credibility to predictive statements on vocational potential and to training assignments resulting from perceived vocational needs.

In addition, it is imperative that greater efforts now be directed toward placing the visually impaired into community employment and industrial workshops. Applied research efforts are also required to evaluate the efficacy and long-term impact of on-the-job training programs. Vocational evaluation must continue to develop new ways to assess the employment potential of this population.

Table 4-1

Sample Entry from the Dictionary of Occupational Titles

KITCHEN HELPER (hotel & rest.) 318.887. cookee; cook helper; kitchen hand; kitchen man; kitchen porter; kitchen runner. Performs any combination of the following duties to maintain kitchen work areas and restaurant equipment and utensils in clean and orderly condition: Sweeps and mops floors. Washes worktables, walls, refrigerators, and meat blocks. Segregates and removes trash and garbage and places it in designated containers. Steam-cleans or hoses-out garbage cans. Sorts bottles and breaks disposable ones in bottle-crushing machine. Washes pots, pans and trays by hand. Scrapes food from dirty dishes and washes them by hand or places them in racks or on conveyor to dishwashing machine. Places silver in revolving burnishing-machine tumbler, dips it in chemical solutions, holds it against buffing wheel, and rubs it with cloth to remove tarnish and restore luster. Holds inverted glasses over revolving brushes to clean inside surfaces. Transfers supplies and equipment between storage and work areas by hand or by use of handtruck. Sets up banquet tables. Washes and peels vegetables, using knife or peeling machine. May be known according to task performed as DISHWASHER, HAND; DISHWASHER, MACHINE; GARBAGEMAN; POTWASHER; SILVERMAN.

Source: U.S. Department of Labor, Manpower Division. Dictionary of Occupational Titles (Third Edition). Washington, D.C.: 1965, p. 399.

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CHAPTER FIVE

PREVOCATIONAL SUBDOMAIN

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PREVOCATIONAL SUBDOMAIN

This subdomain includes skills an individual must master in order to have a reasonable probability of vocational success. Prevocational skills are ultimately crucial in getting and keeping a job. They are also critical in achieving and maintaining a satisfying, independent personal life.

Some Academy students independently master the prevocational skills. These students progress directly into specific job training programs. Students that do not independently learn the prevocational skills are given direct instruction on these skills.

There are two components of the prevocational subdomain: general work habits and contract work. Direct instruction on prevocational skills is given in both components. Successful instruction during the general work habits component allows many students to move into specific job training programs. The remaining students continue to learn prevocational skills while participating in contract work. Given additional instruction during contract work, many students eventually master all of the prevocational skills and enter specific job training programs. The two components of the prevocational subdomain are analyzed below.

General Work Habits

Component Description

Students who do not master general work habit skills are unlikely to succeed on the job. For example, workers who do not form positive relationships with supervisors are unlikely to maintain employment for any great length of time. After repeated dismissals on this basis, such an individual becomes unemployable. This will be true even if the worker is quite proficient in the performance of his job skills. General work habit skills are many and varied. This component only contains representative examples of all the requisite general work habit skills. For instance, for the safety awareness and habits skill, only safety as it relates to electrical appliances and work tools is presented.

Specific Skills

1. Safety awareness and habits.
2. Response to instructions.
3. Tolerance for work period/persistence.
4. Rate of work.
5. Quality of work.
6. Ability to work under pressure.
7. Appearance.
8. Attitude about work.
9. Relationship with supervisor.
10. Relationship with co-workers.

Instructional Strategies

1. Safety awareness and habits (electrical appliances and work tools.

Instructional Objective. Given a work assignment requiring the use of electrical appliances or work tools, the student will engage in the assignment and conform to the components of the task analysis below with 100% accuracy on 20 consecutive days.

Task Analysis.

1. S will successfully complete formal instruction on the use and care of a device before operating it independently.
2. S will use machines only for their intended purpose.
3. When appliance or tool has a separate cord, S will always attach cord to the device before plugging cord into the wall socket.
4. S will use only extension cords that are approved for the machine to be used.
5. S will not attempt to operate any appliance or tool which is in disrepair. This includes a device with a damaged plug or cord, one that malfunctions, and one that has been dropped or otherwise damaged.
6. S will not wear loose clothing around tools with moving parts.
7. S will keep machine, work area, and self dry to avoid electrical shock resulting from wet surfaces.
8. S will not allow cord to lie across immediate work area, hang over the edge of work table or counter, or make contact with hot surfaces.
9. S will avoid contact (e.g., hands, feet, hair) with moving parts and hot surfaces.
10. S will not leave an appliance or tool in operation when unattended.

11. S will not probe device with foreign objects (e.g., jammed drill, toaster).
12. S will not throw objects (e.g., scraps into a trash can).
13. S will turn off machine at the switch before unplugging it.
14. S will unplug the machine from the outlet when not in use, before putting on or taking off parts, and before cleaning.
15. S will grasp plug between thumb and forefinger to disconnect a machine from the wall socket. Do not pull on the cord.
16. S will keep appliance or tool clean and in good operating condition by following service manual instructions on use and care.
17. S will keep work area orderly and neat — tools and materials should always be kept in the same location for easy identification.
18. S will identify and comply with warning signs and signals -- signs and signals must be coded to be within the sensory capabilities of the S.
19. S will respond to safety instructions within 5 seconds.
20. S will identify and avoid dangerous areas (e.g., co-worker operating lathe, table saw).
21. S will define safety.
22. S will describe the importance of good safety habits.

Teaching Procedures for Step 1 of TA.

1. T will give S formal instructions on the use and care of each tool before allowing S to operate the tool under continuous supervision. T will discuss the names and purposes of each part, as well as functions for which the tool can be used. T will provide model demonstrations of appropriate

operation of the machine. Separately, T will provide simulations (device unplugged) of inappropriate and unsafe methods of using the machine. Simultaneously with the demonstrations, T will provide verbal explanations of the important concepts being demonstrated. Finally, T will show S how to care for the tool. T will have S imitate the demonstrations (device unplugged) described above until there is congruence between the T's demonstration and the S's imitation.

2. T will allow S to practice the appropriate operation of the tool under continuous supervision. As S practices, T will provide reinforcement for appropriate demonstrations. T will point out how the demonstration was correct at the same time. T will give feedback regarding aspects of the demonstrations that are incorrect and provide a good model to show S how to improve on performance. T will allow S to imitate the model. T will reinforce good imitations. Throughout this step, T will continue instruction on the names and functions of the parts of the tool as well as other vocabulary appropriate for its operation.

3. When S has completed five consecutive 15 minute sessions during which only appropriate behavior is observed by T, the S will be given a certificate verifying his successful completion of formal instruction on the device (note that the criterion stated above may vary depending on the complexity of the tool or appliance). T will socially reinforce S for accomplishments and inform S that he/she can now operate the machine without continuous supervision.

4. T will explain to S that using an appliance or tool for which he/she has not received instruction can be very dangerous.

T will offer examples of the harm that can result when an individual tries to operate a machine without instruction. T will discuss the kinds of consequences which would be appropriate to implement should S attempt to use a tool without a certificate of proficiency. If agreement cannot be mutually reached, T will use own judgment in constructing a punishment which is reasonable for particular appliances and tools and appropriately aversive to S. T should consistently administer the punishment when infractions occur.

2. Response to instructions.

Instructional Objective.[1] Given a normally occurring number of instructions to respond to in a natural setting (e.g., prevocational classroom, workshop) over a randomly selected ten-day period, the student will initiate compliance within 10 seconds and successfully follow instructions in a reasonable amount of time (with due consideration for the task involved). The two criteria above will be met on 95% of the occasions observed.

Task Analysis.

1. S will stop working or talking when given instructions.
2. S will listen attentively when given instructions.
3. S will face the supervisor when given instructions.
4. S will be pleasant when given instructions. S will not chronically complain, appear angry, or behave silly when given instructions.
5. S will respond clearly when asked a question.
6. S will ask for instructions to be repeated if not understood.
7. S will ask for clarification when parts of the instructions are not understood.
8. S will be prepared to repeat the instructions after they are given.
9. S will not offer suggestions about ways to do things until two things are done: (a) she/he is sure a good relationship with the supervisor is established; (b) she/he is sure the suggestion can work.

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[1] Time limits on frequently occurring tasks should be determined in advance. Time limits should be based on the characteristics of the task and the location of the materials needed.

10. S will respond to instructions requiring immediate compliance within 10 seconds.

11. S will finish each instruction completely.

12. S will ask before doing things without permission.

5. Quality of work.

Instructional Objective. Given any product produced at the Academy (sorted metal fasteners, stuffed toy, wooden toy), the student will point out qualitative criteria for the product and judge each criterion as attained or not attained with 95% accuracy.

Task Analysis (Using sorted metal fasteners as the illustration).

1. S will place a box of previously sorted nuts and an empty box in front of him/her on a table.
2. S will grasp a model (or standard) nut between thumb and forefinger.
3. S will state that all the nuts in the presorted box should be the same size as the model nut.
4. S will randomly pick up one nut from the presorted box and use tactile discrimination and residual visual discrimination to judge whether or not the two nuts are the same size.
5. S will place an accurately presorted nut in the empty box; an inaccurately presorted nut will be placed on the table beside the empty box.
6. S will repeat steps 2-5 until 50 metal fasteners have been sampled from the presorted box.
7. S will state that no more than three mistakes should have been found if the sorting was done correctly.
8. S will count the number of mistakes that were found and state the number (e.g., "seven").
9. S will judge whether or not the quality of the work was adequate and state the result (i.e., "This work is alright," or "This work is not good enough.")

Teaching Procedures.

1. T will instruct S to take one of several presorted metal fastener boxes (e.g., one containing nuts) and an empty box, placing them on the table in front of his/her chair.
2. T will instruct S to take some of the fasteners out of the presorted box.
3. T will ask S to name the fasteners that are in the box (nuts, bolts, rivets, washers, pop rivets, or screws).
4. T will state, "Yes, those fasteners are mostly nuts."
5. T will give the S a model (or standard) nut and state, "Most of the nuts in the box are the same size as this one."
6. S will repeat T's statement.
7. T will state, "If there are too many nuts that are the wrong size in the box, the metal company won't pay to have us sort them. They can't use fasteners that are mixed up. (Pause) Now, tell me why it's important for the nuts to be the same size."
8. S will be reinforced for a response that is equivalent to the one in Step 7.
9. T will ask S to compare one of the nuts he/she took out of the presorted box with the standard nut and judge whether or not they are the same size. Initial discriminations should be relatively easy to ensure success during early instruction.
10. T will ask S, "Are they the same size?" T will reinforce S for each correct answer during acquisition and give corrective feedback for incorrect answers.

11. After S understands Step 10, T will instruct S to place nuts that are the same size as the model in the empty box; nuts that are not the same size are to be placed on the table next to the empty box. Practice this step to mastery, initially reinforcing every correct response and providing corrective feedback for incorrect responses.
12. T will instruct S to judge 50 fasteners taken one at a time from the presorted nut box. Each time a nut is judged, S will count it on an abacus placed within easy reach. T will check S's accuracy by recounting the fasteners judged.
13. T will instruct the S to count the number of mistakes found — those nuts placed on the table. T will state, "If there are more than three mistakes, the work was not good enough. The metal company will not pay for this work. The nuts must be resorted. If there are less than four mistakes, the work was good. The metal company will pay. How many mistakes did you find?"
14. S will respond, stating the number of mistakes he found.
15. T will ask, "Was the work good?"
16. S will respond. T will ask, "Why?"
17. T will reinforce S for each correct response and give corrective feedback for errors until mastery occurs.
18. T will ask S to repeat the exercise for practice, giving cues until they can be entirely faded.

6. Ability to work under pressure.

Instructional Objective.[1] When asked to work during periods of emotional stress and/or vocational pressure, the student will work, maintaining 80% of his normal production level for temporary stress/pressure and improving on his normal production level when such a need is the source of the stress/pressure.

Task Analysis.

1. S will continue to work when observed by his supervisor.
2. S will modify his work behavior when criticized by his supervisor.
3. S will increase his production rate when asked to work faster by his supervisor.
4. S will work for a longer duration when asked to do so by his supervisor.
5. S will complete his work within a specified time limit when asked to do so by his supervisor.
6. S will work with fewer errors when asked to improve the quality of his work by the supervisor.
7. S will maintain or increase his production level following his absence from work or tardiness.
8. S will continue to work following disappointments concerning his/her job (e.g., rejection of suggestion or for promotion, raise, etc.)
9. S will continue to work when conflicts occur with co-workers.

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[1] The actual amount of improvement required should be based on reasonable expectations found in vocational settings: For example, rush orders, unexpectedly large orders, decreases in work rate or quality, too many breaks, complaints, and the like.

10. S will continue to work when conflicts occur with friends, relatives, or others away from work.

11. S will continue to work when financial difficulties occur outside of work.

12. S will continue to work when legal, housing, or other independent living problems occur outside of work.

9. Relationship with supervisor/employer.

Instructional Objective.[1] Given a supervisor with realistic expectations regarding visually impaired employees, the student will perform the functions of his job to the satisfaction of his supervisor as measured by the *Prevocational Assessment and Curriculum Guide* (Mithaug, Mar, & Stewart, 1978).

Task Analysis.

1. Relationship Prior to Employment - the Interview.
    - a. S will present a clean, well-groomed appearance for the interview.
    - b. S will arrive 5 minutes early for the interview.
    - c. S will be prepared to introduce self to the supervisor/employer.
    - d. S will speak clearly and loud enough to be heard.
    - e. S will stand straight and smile.
    - f. S will shake hands when the supervisor/employer offers his/her hand -- firmly, not too limp or too hard.
    - g. S will continue to stand until the supervisor/employer asks him/her to sit.
    - h. S will sit up straight throughout the interview.
    - i. S will show respect for the supervisor/employer by addressing him/her formally (sir, ma'am, Mr., Ms.) and refraining from chewing gum, smoking, placing packages on desk, etc.

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[1] In a real sense, this skill is mastered when all other prevocational and vocational skills have been mastered. However, the task analysis included in this section contains those enabling skills that logically relate most directly with the supervisor/employee relationship.

j. S will be prepared to tell:

   1) Why he/she would like to work for the company;
   2) Whether he/she wants permanent or temporary employment;
   3) What job he/she is applying for;
   4) What qualifications he/she has for the job;
   5) Whether he/she would prefer to work alone or with others;
   6) What he/she does best and what he/she cannot do;
   7) What jobs he/she has had and why he/she left them;
   8) What pay he/she expects;
   9) What hours he/she can work;
   10) How he/she will get to work;
   11) Whether he/she is willing to work overtime;
   12) What questions he/she has about the job.

2. Developing a Relationship -- The First Days on the Job

   a. S will present a clean, well-groomed appearance on the job.

   b. S will smile easily, introduce self, show an interest in other people, show a positive outlook on life, but will not socialize excessively on the job.

   c. S will show respect for supervisor by addressing him/her formally, unless asked to do otherwise.

   d. S will use his/her employer's time fairly:

      1) S will arrive at work on time;
      2) S will return to work after breaks on time;
      3) S will take only authorized breaks;
      4) S will keep working until time to quit.

   e. S will show his/her appreciation for any time or help given him/her by the supervisor to help S adjust to the new job.

f. S will do his/her job well.

3. Maintaining a Relationship

a. S will follow all instructions accurately.

b. S will cooperate with supervisor and co-workers in order to get team-type jobs done.

c. S will be dependable by consistently coming to work and by calling in when ill.

d. S will show initiative by requesting permission to do jobs that must be done, but only after his/her required work is finished.

e. S will make appropriate efforts to learn more about his/her job and the company.

f. S will show enthusiasm by engaging in his/her work energetically, working quickly, and doing his/her work well.

g. S will show loyalty by refraining from making complaints or spreading rumors behind his/her supervisor's back. S will express his/her genuine concerns about his/her job directly to supervisor in a tactful manner.

h. S will be honest in interactions with supervisor. He/she will refrain from lying, cheating, and stealing (neither goods nor time).

i. S will demonstrate his/her ability to accept criticism by thanking supervisor for telling him/her how to do the job better. Then he/she will use the criticism to improve performance on the job.

j. S will show real appreciation when reinforced by supervisor by thanking him/her and continuing to do a good job.

Teaching Procedures for Step 1a of the TA.

1. T will explain to S that he/she will learn how to present a clean, well-groomed appearance for an interview. T will state, "First you will learn the parts to a clean, well-groomed appearance, then you will learn how to accomplish all the parts, and finally, you will perform all the parts by yourself."

2. T will name the important ideas to be learned in presenting a good appearance. They are written below. S will repeat each idea after T.
   a. Choose clothes that are suitable for the job and fit well.
   b. Clothes should be clean and pressed.
   c. Have hair cut if it is too long.
   d. Leather shoes look better than canvas shoes.
   e. Shine shoes.
   f. Clean and trim fingernails.
   g. Take a bath and use deodorant.
   h. Wash hair.
   i. Boys shave face; girls shave legs and underarms.
   j. Brush teeth.
   k. Ensure fresh breath by gargling or chewing gum; Avoid smoking, drinking beverages, or eating food that will cause bad breath.
   l. Girls apply only a little make-up.
   m. Get dressed.
   n. Comb or brush hair so that it is neat.

3. S will already know how to perform most of the skills listed above. However, he/she may need help in perfecting some of

the skills. T will model or simulate the correct performance for each skill using S's residual vision and tactile senses to grasp the behavior expected. S will practice each skill, receiving corrective feedback and reinforcement when appropriate. Below are some procedures to cover the more complicated skills.

4. T will help S identify clothes that are appropriate for a job interview and that are coordinated. T will help S tag each article of clothing so that S can easily select a coordinated set of clothes. For instance, articles with a circle sewn on them would go well together, while other matched sets would have squares, triangles, etc.
5. S may require tactile criteria for judging when his hair needs trimming. T will explain that, if S is in doubt, a more conservative length for hair is better for most job interviews. Other S's hair can provide stimuli for instructing S to discriminate hair that requires trimming prior to a job interview.
6. Visually impaired S's may require the help of a sighted person to clean and trim their fingernails. However, after receiving continual feedback on their efforts, most S's can learn when their nails are adequately clean and trim. Also, soaking their nails in a detergent solution or an industrial hand cleaner (e.g., GoJo or Gunk) provides a viable and efficient alternative.
7. Visually impaired S's are generally better able to learn to shave themselves with electric razors. The use of safety razors often results in injuries. Instruction should include extensive use of tactile sensations to help S judge the adequacy of his attempts to shave.
8. Girls who wish to apply make-up may require the aid of a sighted person in order to provide feedback on the appropriateness

of her application. Instruction should focus on minimizing the amount of make-up used.

9. Dressing may present additional problems when it is necessary to provide an impressive appearance. S will learn to judge the accuracy of his/her dressing behavior primarily through tactile sensations. If tube socks are not used exclusively, T will explain and demonstrate for S how to line up the heel of the sock in order to get a good fit. S will imitate the behavior, receiving appropriate reinforcement and feedback from T. Front, back, and side zippers will be aligned tactilely following an appropriate model by T. The same is true for belt buckles, shirts, blouses, and most other articles. Discrimination of shoes for left and right feet will be accomplished by the shape of the sole and by fit.

10. S will learn to groom his/her hair by using residual vision and tactile discrimination skills. This is a difficult skill for visually imapired individuals. It is learned through extensive practice and feedback.

11. When all the parts to good grooming are mastered, T will instruct S to select a day and come to the class as if for a job interview. T will provide S with constructive criticism and extensive reinforcement for components appropriately accomplished.

10. Relationship with co-workers.

Instructional Objective. Given a typical group of co-workers, the student will develop cordial, friendly relationships with most of them and no more than 5% of his/her relationships will be abrasive or hostile as measured by two sociograms.

Task Analysis.

1. S will demonstrate friendliness by speaking to co-workers the first time he/she encounters them each day (e.g., "Good morning, Horace"), smiling, asking about things that interest them, etc.
2. S will treat co-workers fairly by following company rules and by not taking advantage of them when they did not have an equal chance. S will try to treat unfair co-workers fairly, too.
3. When doing team-effort jobs, S will do his/her share of the work. When possible, S will help others who are having difficulty.
4. S will gain the trust of co-workers by always doing his/her own work and by doing it well.
5. S will be energetic and enthusiastic about his/her work. He/she will not chronically complain or degrade his/her job.
6. S will try to maintain a helathy self concept by thinking about his/her successes and by continuing to experience success. This will allow him/her to have the capacity for liking others.
7. S will demonstrate his/her respect for co-workers by focusing on their good characteristics and by letting them know he/she values them.

8. S will show loyalty to others by maintaining their confidential conversations and by avoiding spreading rumors.

9. S will demonstrate concern for others by being a good listener when they have problems and by being tactful and by avoiding scurrilous comments.

10. S will readily admit his/her mistakes and try hard to avoid the same mistake in the future.

11. S will readily say he/she is sorry for mistakes that he/she made.

12. S will be punctual in all activities in order to avoid making others wait.

13. S will readily adapt to changes in how to do his/her job, when he/she must work, and where he/she must work.

14. S will follow directions a-curately so that co-workers will not have to do the work for him/her.

15. S will learn how to give clear directions so that others will not be confused about what to do.

16. S will avoid practical jokes.

17. S will attempt to avoid emotional arguments.

18. S will avoid being nosy about matters others would rather not talk about.

19. S will control his/her negative emotions.

20. S will compromise on issues for which no agreement can be reached.

CONTRACT WORK

Component Description

Contract work consists of prevocational activities of relatively low difficulty which are completed according to an agreement between the Academy and a business. An example of contract work is the agreement between the Academy and the Bluebird Body Company requiring students to sort metal fasteners. Contract work provides students with actual work experiences which allow them to learn and practice prevocational skills before entering specific job training programs. Some students who do not master the prevocational skills eventually enter sheltered employment. It is an objective of the Academy to decrease the number of sheltered employment placements as much as possible.

Specific Contracts

1. Metal company contract
2. Stuffed toy and pillow business.
3. Wooden toy business.

Instructional Strategies.

1. Metal company contract.

Contract Description. The students sort various metal fasteners (nuts, screws, bolts, rivets, pop rivets, lock washers) that the Bluebird Body Company brings to the Academy. The students resell the sorted fasteners back to the Bluebird Body Company.

Instructional Objective. Given an unsorted box of metal fasteners, the student will sort them into boxes containing identical fasteners at a rate of 15 per minute and with 95% accuracy. The student will be able to work at the task for periods of one hour without a break.

Task Analysis.

1. S will pour metal fasteners onto a table or into a shallow tray and spread them apart.
2. S will pick out an item to be sorted without regard to size or weight. This is the standard.
3. S will place fastener in his nondominant hand.
4. S will examine visually and tactilely the pile of fasteners and select another of the same type as the standard. Size and weight is disregarded.
5. S will place the selected fastener in the nondominant hand and examine visually and tactilely for similar characteristics.
6. S will leave the fastener in the hand if it is the same kind as the standard; S will replace it in the pile if different.
7. S will repeat items 5 and 6 until his/her hand is full of one kind of fastener.
8. S will place all fasteners in his/her hand into a container.
9. If more of the same kind of fasteners are left in the pile, S will repeat items 2 - 8 until no more or that kind of

fastener remain.

10. S will repeat items 2 - 9 for all remaining kinds of fasteners until there are six containers, one each of mixed nuts, mixed bolts, mixed screws, mixed rivets, mixed pop rivets, and mixed lock washers.
11. S will repeat items 1 - 10 to sort each of the six containers according to size and weight.
12. When bell rings, S will pick up and sweep area.

Teaching Procedures.

1. T will ask S to examine a nut, bolt, screw, rivet, pop rivet, and lock washer. T will describe each fastener as it is examined. T will point out likenesses and differences. S will be asked to repeat each description as well as likenesses and differences.
2. T will give S samples of fasteners which are the same kind, but which differ in size and weight. Using the first fastener as the standard, T will ask S to discriminate other fasteners, keeping those that are the same shape discarding those that are different. Repeat this step until all fasteners are accurately discriminated by S.
3. T will present S with an unsorted container of fasteners. T will ask S to sort out all the nuts, disregarding size and weight. T will provide continual corrective feedback, pointing out why errors occurred and how they can be corrected (e.g., "The one you kept was the wrong shape. It has a point. Nuts don't have a point. When you are sorting nuts, discard fasteners that have points.") Reinforce frequently.
4. T will ask S to pick one of the nuts from the container full of mixed nuts. T will say, "Use the nut you picked as the standard. Now find all the other nuts that are the same size and weight

and put them in the empty box." T will provide continual corrective feedback and reinforce effort and accuracy frequently.

5. T will repeat step 5 until there are no more nuts in the mixed nut container.

6. At the end of the contract work period a bell will ring. T will ask S to pick up fasteners on the table and floor and place them in the container of unsorted fasteners. T will ask S to sweep the floor. T will provide continual corrective feedback and reinforce accurate responses to instructions.

2. Stuffed toy and pillow business.

Business Description. The students stitch pre-cut fabric pieces which are in the shape of toys or pillows and stuff the sewn pieces. Finally pre-cut overlays (toy faces, buttons, and other decorations) are sewn or glued on the toys and pillows by the students. Final products are sold through local businesses.

Instructional Objective. Given the necessary materials (i.e., pre-cut fabric pieces, needles, thread, stuffing, fabric glue, pins), the student will sew, stuff, and glue the pieces, producing at least one toy or pillow per each 75 minutes of contract work. The toy or pillow produced must be salable.

Task Analysis.

1. S will use fabric glue to glue pre-cut overlays on toy or pillow.
2. S will align pre-cut fabric pieces, with right sides of material together.
3. S will pin aligned pre-cut fabric pieces.
4. S will use a short running stitch to sew front and back of toy or pillow together, leaving an opening big enough to turn product right side out and to put in stuffing.
   a. S will use needle threader to thread the needle.
   b. S will knot the two ends of the thread together.
   c. S will insert needle into fabric ¼ inch from its edge and pull the thread through to set the knot.
   d. S will push needle back up from the opposite side of the fabric approximately 1/8 inch from the first stitch and pull the thread through to set the stitch.
   e. S will continue stitches 1/8 inch long alternating from one side of the fabric to the other until he/she

reaches the end of the thread or the stopping point on the fabric.

   f. When S has mastered the single stitch, he/she will push needle in and out of the fabric four or five times (maintaining distance from edge and 1/8 inch stitch) before pulling the thread through to set the knot or stitch.

   g. S will tie a knot in the end of the thread to finish the stitch.

5. S will turn the product inside out.

6. S will insert stuffing to desired fullness.

7. S will turn the raw edges of the fabric (opening) inside and pin the opening closed.

8. S will use a whip stitch to close the opening.

   a. S will thread needle with a needle threader.

   b. S will knot the two ends of the thread together.

   c. S will insert needle into fabric ¼ inch from its edge and pull the thread through to set the knot.

   d. S will insert needle into the front edge of the fabric again and pull the thread through to set the stitch.

   e. S will repeat item d(always stitching front to back) until the seam is complete.

   f. S will tie a knot in the end of the thread to finish the seam.

3. Wooden toy business.

Business Description. The students sand pre-cut wooden toys smooth. Next they stain and varnish the toys. Finally, the students package each toy. Final products are sold through local businesses.

Instructional Objective. Given the necessary materials (i.e., scrap wood pieces, pre-cut toys, sandpaper, wood stain, wood sealer/ varnish, rags, brushes, steel wool, packing filler, boxes), the student will sand, stain, varnish, and pack wooden toys, producing at least one toy per each two hours of contract work. The toy must be salable.

Task Analysis.

1. S will sand the pre-cut wooden toy.
    - a. S will find the grain of the wood.
    - b. S will tear a sheet of snadpaper into fourths.
    - c. S will tear ¼ sheet of snad paper to sand the entire surface of the toy being sure to sand with the grain.
    - d. S will sand toy until it is as smooth as a standard toy which he/she uses as a comparison.
    - e. S will remove dust residue with a tack rag.
2. S will stain the pre-cut wooden toy.
    - a. Using a small piece of cloth, S will dip into the stain.
    - b. S will remove excess stain by wiping the rag against the inside edge of the can.
    - c. S will wipe the stain on all surfaces of the toy following the grain.
    - d. S will place the stained toy on the drying rack.
3. S will varnish the pre-cut wooden toy with wood sealer.
    - a. Using a small piece of cloth, S will dip into the wood sealer.

b. S will remove excess wood sealer by wiping the rag against the inside edge of the can.

c. S will wipe the wood sealer on all surfaces of the toy following the grain.

d. S will place the stained toy on the drying rack.

3. S will varnish the pre-cut wooden toy with wood sealer.

a. Using a small piece of cloth, S will dip into the wood sealer.

b. S will remove excess wood sealer by wiping the rag against the inside edge of the can.

c. S will wipe the wood sealer on all surfaces of the toy following the grain.

d. Using his/her hands, S will rub the wood sealer into all surfaces of the toy.

e. S will place the sealed toy on the drying rack.

f. When dry, S will rub the toy with steel wood (following the grain) to cut the gloss of the wood sealer.

g. S will remove the dust residue with a tack rag.

h. S will repeat items a - g.

i. S will repeat items a - e.

4. S will package the pre-cut wooden toy.

a. S will select an appropriate box for the particular toy.

b. S will make a bed of filler for the toy to rest on.

c. S will place toy in the box.

d. S will pack filler around and on top of the toy.

e. S will seal the box.

f. S will place the box in the storage area.

Teaching Procedures for Steps 1, 2, and 3 of TA.

1. Using visual and tactile prompts, T will show S the grain of the wood.
2. T will ask S to indicate the grain of the wood on ten wood scraps (pine, fruitwood, mahogany, and oak).
3. T will demonstrate sanding with the grain and sanding against the grain. T will discuss the effect of each. S will repeat these basic ideas.
4. T will ask S to sand a wood scrap with a full sheet of sandpaper. T will discuss whether or not this works well.
5. T will ask S to sand a wood scrap with a ¼ sheet of sandpaper. T will point out that this works better than a full sheet. T will describe other advantages of using ¼ sheets of sandpaper.
6. T will ask four S's to sand wood scraps. T will ask S's to swap wood scraps. T will ask S's to compare wood scraps and decide which one is smoothest. T will tell S's that the wooden toys they will make should be as smooth as possible; that is because they feel better and look better.
7. T will ask S to sand a wood scrap until it is as smooth as the standard. T will give corrective feedback and reinforce S when the scrap is sanded to standard.
8. T will tell S what a wood stain is. T will tell S why a wood stain is not necessary. S will be asked to repeat these comments.
9. Using visual and tactile prompts, T will demonstrate how to stain a wooden toy. T will point out that he/she uses the same movements as he did for sanding. T will describe and demonstrate how to cover all surfaces. T will demonstrate and describe what happens when too much stain is placed on one spot. T will demonstrate and describe how the stain can be spread

evenly. S will repeat key points.

10. T will ask S to stain a sanded wooden scrap. T will give corrective feedback and reinforcement when S responds appropriately.

11. T will ask S to compare a stained wooden toy with a varnished wooden toy. T will ask, "Which feels better?" T will point out that varnished wood looks better than stained wood.

12. T will ask S to compare a varnished wooden toy with a wooden toy finished with wood sealer. T will ask, "Whcih feels better?" T will point out that wood finished with wood sealer looks better to most people.

13. T will use visual and tactile prompts to demonstrate how to finish a wooden toy with wood sealer. S will repeat each step.

14. T will ask S to apply wood sealer to a stained wood scrap. T will give corrective feedback on each step and reinforce frequently for appropriate behavior. S will be asked to compare his/her final product with a standard toy. T will ask, "Are they the same? Is yours as smooth as the standard?"

15. When S produced a wooden scrap that matches the standard, T will congratulate S and tell him he can produce a real wooden toy.

CHAPTER SIX

CLERICAL SUBDOMAIN

Linda Brightwell

Georgia Academy for the Blind

CLERICAL SUBDOMAIN

This subdomain includes occupations related to general office work, such as bookkeeping, taking and transcribing dictation, typing, and keeping records. Duties also pertain to operating office machines, such as adding and duplicating machines. The occupations of general office clerk and medical transcribing machine operator are analyzed below as sample jobs from the clerical subdomain.

General Office Clerk

Job Description

Performs any combination of the following duties in business office of commercial or industrial establishment: Furnishes workers with clerical supplies. Opens, sorts, and distributes incoming mail, and collects seals, and stamps outgoing mail. Delivers oral or written messages. Collects and distributes paperwork, such as records or timecards, from one department to another. Marks, tabulates, and files articles and records. May use office equipment, such as envelope-sealing machine, letter opener, record shaver, stamping machine, and transcribing machine. May deliver items to other business establishments.

Compiles data and operates typewriter in performance of routine clerical duties to maintain business records and reports. Types or writes reports, business correspondence, application forms, shipping tickets, and other matter. Files records and reports, posts information to records, sorts and distributes mail, answers telephone, and performs similar duties. May compute amounts, using adding or calculating machine.

Specific Skills

1. Describing the qualifications for a job as a general office clerk.
2. Indexing personal names alphabetically.
3. Indexing business and geographic names geographically.

4. Indexing names of organizations, government agencies and subjects alphabetically.
5. Filing correspondence alphabetically.
6. Requisitioning, charging and following-up material from files.
7. Transferring and storing material from files.
8. Describing the Colorscan System, Variadex System, Super-Ideal System and the Alpha Code System.
9. Filing correspondence geographically.
10. Filing correspondence numerically.
11. Filing correspondence by subject.
12. Describing card records and systems.
13. Describing equipment and systems in records control.
14. Describing how to sort and retrieve information from automated data processing systems.
15. Describing microfilming procedures.
16. Describing procedures for maintaining and improving records control systems.
17. Adding on the electronic calculator and the ten-key adding-listing machine.
18. Subtracting on the electronic calculator and ten-key adding-listing machine.
19. Using repeated digits on the electronic calculator and ten-key adding-listing machine.
20. Multiplying on the electronic calculator and ten-key adding-listing machine.
21. Using a fixed decimal point in addition, subtraction, and multiplication on the electronic calculator.
22. Dividing on the electronic calculator.
23. Writing and endorsing checks.

24. Writing bank deposit slips and depositing money.
25. Writing receipts.
26. Writing bills and invoices.
27. Operating stencil duplicating machine.
28. Operating fluid duplicating machine.
29. Operating photo or thermal copiers.
30. Operating office telephones with intercom.
31. Using the telephone directory.
32. Writing messages.
33. Stamping, sorting, and distributing mail.
34. Determining postage using postal scales.
35. Preparing packages for mailing.

Possible Job Placements

1. State of Georgia Merit System

   Application for employment and test date may be secured from:

   Georgia Academy for the Blind

   2895 Vineville Avenue

2. Georgia State Employment Office

   746 Second Street

   755-6164

Instructional Strategies

1. Describing the qualifications for a job as a general office clerk.

Instructional Objective. Given the question, "What are the qualifications for a job as a general office clerk?" the student will write the correct responses with 90% accuracy.

Task Analysis.

1. S will describe why a high school diploma is important for a job as a general office clerk.
2. S will describe why the ability to read standard print is important for a job as a general office clerk.
3. S will describe why Math and English skills are important for a job as a general office clerk.
4. S will describe why good telephone skills are important for a job as a general office clerk.
5. S will describe why accuracy is important for a job as a general office clerk.
6. S will describe why training in filing and office machines is important as a general office clerk.

Teaching Procedures.

1. T will direct S to look up general office clerk in the *Dictionary of Occupational Titles*.
2. T will arrange a field trip to observe a clerk on the job.
3. T will discuss qualifications with the S.
4. T will ask S questions relating to the qualifications for a job as a general office clerk.
5. T will check papers to make certain that 90% accuracy has been attained.

2. __Indexing personal names alphabetically__.

__Instructional Objective__. Given the directive to index a series of personal names alphabetically on file cards, the student will index and alphabetize, with 90% accuracy.

__Task Analysis__.

1. __S__ will study text for rules for indexing personal names.
2. __S__ will practice indexing personal names on cards.
3. __S__ will practice arranging the personal name cards in alphabetical order.

__Teaching Procedures__.

1. __T__ will assign appropriate section in the textbook regarding rules for indexing personal names.
2. __T__ will make certain that the medium is appropriate for each __S__ - print or tape.
3. __T__ will discuss materials with __S__.
4. __T__ will instruct __S__ to practice indexing personal names on cards.
5. __T__ will reinforce __S__.
6. __T__ will instruct __S__ to practice arranging personal name index cards in alphabetical order.
7. __T__ will reinforce __S__.
8. __T__ will ask __S__ relevant questions.
9. __T__ will direct __S__ to write the responses to the questions.
10. __T__ will check the papers to make certain that 90% accuracy has been attained.

17. Adding on the electronic calculator and the ten-key adding-listing machine.

Instructional Objective. Given the directive to add a series of problems on the electronic calculator or ten-key adding-list machine, using the touch system, the student will prepare the machine and add the numbers with 100% accuracy.

Task Analysis.

1. S will read the appropriate section of the textbook as assigned.
2. S will watch the T demonstrate the proper desk and machine arrangement.
3. S will watch the T demonstrate the finger positions.
4. S will watch the T demonstrate the appropriate reaches from middle bank to top bank and lower bank.
5. S will watch T demonstrate the appropriate thumb on zero and little finger on the plus bar.
6. S will watch T demonstrate the appropriate use of the plus bar.
7. S will watch T demonstrate the appropriate way to clear the machine with the total key.
8. S will watch T demonstrate setting the decimal indicator at zero.
9. S will watch T demonstrate the appropriate way to clear the entry with the clear entry key.
10. S will practice the above procedures with sample problems.
11. S will add test problems on the electronic calculator or ten-key adding-listing machine.

Teaching Procedures.

1. T will assign the appropriate section in the text.
2. T will discuss the information with S.

3. T will demonstrate the proper use of the various parts of the machine to S.
4. T will discuss the demonstration with S.
5. T will assign practice problems for S.
6. T will reinforce S.
7. T will administer test problems to S.
8. T will correct papers to make certain that 100% accuracy has been attained.
9. T will reinforce S.

18. Subtracting on the electronic calculator and ten-key adding-listing machine.

Instructional Objective. Given the directive to subtract a series of problems on the electronic calculator or ten-key adding-list machine, using the touch system, the student will complete the problems with 100% accuracy.

Task Analysis.

1. S will read the appropriate section of the textbook as assigned.
2. S will watch the T demonstrate the proper use of the electronic calculator or ten-key adding-listing machine.
3. S practices adding on the calculator and adding machine.
4. S will complete test problems on the electronic calculator or ten-key adding-list machine.

Teaching Procedures.

1. T will assign the appropriate section in the text.
2. T will discuss the information with S.
3. T will demonstrate the proper use of the various parts of the machine to S.
4. T will discuss the demonstration with S.
5. T will assign practice problems for S.
6. T will reinforce S.
7. T will administer test problems to S.
8. T will correct papers to make certain that 100% accuracy is attained.
9. T will reinforce S.

34. Determining postage using postal scales.

Instructional Objective. Given the directive to "weigh this mail and determine the postage, sending it by the least expensive class from Macon to Atlanta," the student will weigh a large sealed envelope containing a packet of material and determine the postage as follows with 100% accuracy.

Task Analysis.

1. S will read the appropriate section of the textbook as assigned.
2. S will watch the T demonstrate the proper use of the postal scale.
3. S will place the packet of material on the scales.
4. S will read the indicator arrow.
5. S will determine postage by weight, class, and distance.

Teaching Procedures.

1. T will assign the appropriate section in the text.
2. T will discuss the information with S.
3. T will demonstrate the proper use of the postal scale.
4. T will assign practice situations for the S using the postal scale.
5. T will reinforce S.
6. T will ask S to weigh and determine postage of a particular packet of material.
7. T will check the S's performance to make certain that 100% accuracy is attained.
8. T will reinforce S.

35. Preparing packages for mailing.

Instructional Objective. Given the directive to prepare a package for mailing, the student will wrap, tie, and label a package, with 100% accuracy.

Task Analysis.

1. S will watch the T demonstrate the proper method of wrapping, tying, and labeling packages.
2. S will practice measuring an appropriate size piece of wrapping paper for a specific package.
3. S will practice cutting an appropriate size piece of wrapping paper for a specific package.
4. S will bind and knot strong cord or tape around both directions of package.
5. S will write or type return address label.
6. S will attach return address label to upper left front side of package.
7. S will write or type package address label.
8. S will attach address label to lower right center of the front of the package.

Teaching Procedures.

1. T will demonstrate the proper method to prepare a package for mailing.
2. T will discuss the information with S.
3. T will assign practice situations for the S to prepare a package for mailing.
4. T will reinforce S.
5. T will ask S to prepare a specific package for mailing.
6. T will check the S's performance to make certain that 100% accuracy is attained.

Medical Transcribing Machine Operator

Job Description

Operates typewriter to transcribe letters, reports, or other recorded data heard through earphones of transcribing (voice reproducing) machine: Positions record or tape on machine spindle and sets needle on record, or threads tape through machine. Depresses pedal to rotate record or tape. Turns dials to control volume, tone, and speed of voice reproduction. Types message heard through earphones. Reads chart prepared by dictator to determine length of message and corrections to be made. May type unrecorded information, such as name, address, and date. May keep file of records. May condition records for reuse, using wax-shaving attachment.

Specific Skills

1. Describing the characteristics of a career as a medical secretary, e.g., daily tasks, employment opportunities, personal qualifications, professional conduct, appearance, professional status, and adherence to medical ethics.
2. Describing and demonstrating acceptable ways to deal with patients, e.g., use of telephone, making appointments, and acting as a receptionist.
3. Describing the contents of medical records, e.g., medical history, medical reports of tests and examinations and consent forms.
4. Describing and demonstrating how to handle communications, e.g., incoming mail, outgoing mail, use of postal, express and telegraph utilities, and composition of letters.
5. Describing the business aspect of the medical practice, e.g., doctor's fee, charges and payments, and bills and collection of accounts.

6. Describing the functions of insurance in a doctor's office, e.g., nonprofit preparid medical care plans, commercial policies, workmen's compensation, medicare, malpractice and life insurance.
7. Describing the qualifications of a physician and the areas in which he/she may specialize.
8. Describing medical societies and the role of the physician and the secretary in these organizations.
9. Describing and demonstrating procedures for assisting the doctor in writing tasks, e.g., library research, preparing manuscripts and printing.
10. Describing and demonstrating procedures for managing the office, e.g., consultants, maintenance, housekeeping and supplies.
11. Describing the duties of a medical assistant, e.g., sterilization, examinations, diagnostic tests and treatments.
12. Describing the duties of a medical secretary in a hospital, e.g., the office secretary, various medical services and the records library.
13. Describing the duties of the dental secretary, e.g., fields of dentistry, records, instruments, sterilization, supplies, and assisting.
14. Describing and demonstrating methods of finding a job as a medical secretary.
15. Spelling and defining 76 medical prefixes, 25 medical suffixes and 74 common medical abbreviations.
16. Spelling, defining and typing medical terms relating to body systems, drugs, and medical specialties.
17. Typing hospital case histories, using typical format, from the transcription machine, with the aid of a medical dictionary.

Possible Job Placements

1. Medical Center of Central Georgia
   Medical Records Library
   777 Hemlock St.
   742-1122
2. Office of:
   Dr. O. S. Spivey
   2009 Vineville Avenue
   745-1634

Instructional Strategies

1. Describing the characteristics of a career as a medical secretary, e.g., daily tasks, employment opportunities, personal qualifications, professional conduct, appearance, professional status, and adherence to medical ethics.

Instructional Objective. Given the question, "What are the characteristics of a career as a medical secretary?" the student will write the daily tasks, employment opportunities, personal qualifications, professional conduct, appearance, professional status, and medical ethics, with 80% accuracy.

Task Analysis.

1. S will describe the proper procedure for the following daily tasks.
    a. handling a telephone call
    b. making appointments
    c. receiving patients
    d. quoting fees to patients
    e. recording patients' charges
    f. payments
    g. sending out bills
    h. collecting bills
    i. taking dictation and transcribing correspondence and medical histories
    j. completing insurance forms
    k. making hospital reservations
    l. procuring nurses
    m. filing histories and letters
    n. keeping doctor's financial record
    o. making deposits

p. reconciling bank statements

q. keeping payroll records

r. handling petty cash

s. supervising other personnel

t. using business machines

u. helping patients to understand the doctor's instructions

v. keeping track of dates for renewal of licenses, premiums, membership fees, subscriptions, and meetings

w. checking medical journals for items of interest to the doctor

x. proofreading doctor's articles, lectures, and manuscripts

y. preparing records for use in court

z. ordering, handling, and storing supplies

aa. planning trips for the doctor

bb. taking care of the office in the doctor's absence

2. S will describe the employment opportunities in the following situations.

a. doctor's office

b. group practice

c. dentist's office

d. hospitals

e. clinics

f. public health departments

g. foundations

h. institutions

i. armed services

j. prepaid medical care and hospitalization plans

k. insurance companies

l. medicare

  - m. business world
  - n. publishers
  - o. free-lance work
  - p. teaching
  - q. laboratories

3. S will describe the necessity of exhibiting the following personal qualities.
   - a. kindness and sympathy
   - b. accuracy and dependability
   - c. punctuality
   - d. thoroughness
   - e. tact
   - f. cheerful personality
4. S will describe the necessity for the following professional conduct.
   - a. good manners
   - b. common sense
   - c. ability to take criticism
   - d. professional secrecy
5. S will describe the necessity for the following standards.
   - a. appropriate dress
   - b. good grooming
6. S will describe the following fringe benefits of professional status.
   - a. eligibility for membership in secretarial associations
   - b. eligibility for membership in medical assistants association

7. S will describe the importance of observing the following medical ethics.
   a. keeping knowledge of patients confidential
   b. never criticize doctor to a patient
   c. never keep another doctor waiting on the phone or in the reception room

Teaching Procedures.

1. T will assign appropriate sections of the textbook.
2. T will make certain that the appropriate medium is used with each S-print or tape.
3. T will discuss the material with the S.
4. T will reinforce S.
5. T will assign remedial reading when necessary.
6. T will ask questions regarding the reading content.
7. T will request that the S type the answers to these questions.
8. T will correct papers to make certain that the S has answered questions with 80% accuracy.
9. T will reinforce S.

2. Describing and demonstrating acceptable ways to deal with patients, e.g., use of telephone, making appointments, and acting as a receptionist.

Instructional Objective. Given the question, "What are the acceptable ways to deal with patients?" the student will demonstrate through role playing and using the Bell Tele-trainer the acceptable ways, with 80% accuracy.

Task Analysis.

1. S will demonstrate the following telephone skills using the Bell Tele-trainer:
    a. S will promptly answer the phone.
    b. S will answer with, "Dr. (name)'s office."
    c. S will keep paper and pencil by phone.
    d. S will obtain caller's exact name spelling and message.
    e. S will screen calls to avoid interrupting the doctor unnecessarily.
    f. S will indicate the following on the message slip: hour and date, name and address, telephone number, message, comments by secretary and action taken.
    g. S will demonstrate proper use of telephone directory for local and long distance calls.
    h. S will demonstrate proper use of the switch board system.
2. S will describe the proper procedure for the following appointment tasks.
    a. recording appointments in book with appropriate time allowed for each.
    b. making cancellations.

3. S will describe the following proper receptionist's procedures.
    a. help patients find seats.
    b. check patient names with schedule.
    c. obtain a short list of information on new patients.
    d. use route slips on each chart to keep patients moving smoothly from room to room.
4. S will state the importance of never discussing medical or personal problems with a patient.

Teaching Procedures.

1. T will assign appropriate sections of the textbook.
2. T will make certain that the appropriate medium is used for each S's print or tape.
3. T will discuss the material with the S.
4. T will reinforce S.
5. T will assign remedial reading when necessary.
6. T will develop and implement simulation activities for the telephone exercise using the Bell Tele-trainer.
7. T will reinforce S.
8. T will ask questions regarding the reading content.
9. T will request that the S type the answers to these questions.
10. T will correct papers to make certain that the S has answered questions with 80% accuracy.
11. T will reinforce S.

16. Spelling, defining, and typing medical terms.

Instructional Objective. Given a list of medical terms and general abbreviations, the student will correctly type, spell and define the terms, with 90% accuracy.

Task Analysis.

1. List of specific medical terms
2. List of general abbreviations

Teaching Procedures.

1. T will assign appropriate sections of the textbook.
2. T will make certain that the appropriate medium is used for each S - print or tape.
3. T will discuss the material with the S.
4. T will reinforce S.
5. T will assign remedial reading when necessary.
6. T will dictate the terms and general abbreviations to the S.
7. T will request that the S correctly type and spell the terms and general abbreviations.
8. T will ask S to define the terms and general abbreviations.
9. T will correct papers to make certain that the S has typed and spelled the terms with 90% accuracy.

17. Typing hospital case histories, using typical format, from the transcription machine, with the aid of a medical dictionary.

Instructional Objective. Given a case history on the Edisette Machine the student will correctly transcribe and type the information using block style, correcting errors and using a dictionary when necessary, with 100% accuracy.

Task Analysis.

1. S will be given a case history.
2. S will transcribe and type case history.
3. S will correct errors, using a dictionary.

Teaching Procedures.

1. T will give the case history to the S.
2. T will discuss the material with the S.
3. T will request that S transcribe and type the case history.
4. T will correct the papers to make certain that a 98% accuracy has been attained.
5. T will reinforce the S.

CHAPTER SEVEN

FABRICATION AND REPAIR OF MUSICAL INSTRUMENTS SUBDOMAIN

Leon Watson

Georgia Academy for the Blind

FABRICATION AND REPAIR OF MUSICAL INSTRUMENTS SUBDOMAIN

This division includes occupations concerned with fabricating and repairing wind, string, and percussion instruments, including pianos and electric or electronic organs and includes tuning instruments. The occupations of piano tuner and piano repair person are analyzed below as sample jobs from the fabrication and repair of musical instruments subdomain.

Piano Tuner

Job Description

Tunes pianos in private and public establishments, using tuning fork and tuning hammer: Removes board from front of piano to expose strings. Places strips of felt or rubber between strings nearest to string to be tested to mute them. Strikes middle C and compares pitch with that of standard tuning fork. Turns string pin with tuning hammer to adjust tension on string until pitch of string and tuning fork correspond. Tunes remaining notes (strings) by comparing them with middle C and each other. May make initial adjustment of piano strings in factory.

Specific Skills

1. Identifying outer parts of piano case.
2. Identifying the tools for disassembling the piano case.
3. Demonstrating proper use and care of tools.
4. Disassembling the piano case by removing the trimmings.
5. Identifying the keyboard including sharps, flats, intervals, octaves.
6. Explaining the position and purpose of strings and tuning pins, bridge pins, hitch pins.
7. Pitching the initial string with a tuning fork.
8. Tuning the pins and strings to form a unison.
9. Identifying the rubber wedge and felt mute.

10. Muting out strings in trebble and bass sections by using the rubber wedge and felt mute.
11. Tuning a unison to a single note.
12. Muting out the first and third strings in the middle register.
13. Pitching the initial note with the tuning fork.
14. Laying a temperment by tuning fourths, fifths and testing with sixths and thirds.
15. Explaining the meaning of A440.
16. Identifying standard pitch.
17. Using the fork to determine standard pitch.
18. Using the bar to determine standard pitch.
19. Tuning octaves by use of rubber wedge mute.
20. Testing by tenths and seventeenths.

Possible Job Placements

1. Story & Clark Piano Company
   Macon, Ga.
2. Rich's
   Atlanta, Ga.
3. University of Georgia
   Athens, Ga.
4. Wesleyan College
   Macon, Ga.
5. Georgia College
   Milledgeville
6. Baldwin Piano Company
   Cincinnati, Ohio
7. Currier Piano Company
   North Carolina

8. Estey Piano Company

   Indiana

9. Grand Piano Company

   North Carolina

Instructional Strategies

1. Identifying the outer parts of a piano case.

Instructional Objective. Given a piano case, the student will correctly identify the various outer parts, with 100% accuracy.

Task Analysis.

1. S will identify piano top.
2. S will identify front panel.
3. S will identify shelf board.
4. S will identify fall board.
5. S will identify key slip.
6. S will identify cheek block.
7. S will identify knee board.
8. S will identify pilasters.
9. S will identify piano toes.
10. S will identify toe rail.
11. S will identify pedals.

Teaching Procedures.

1. T traces outer parts of piano case in logical sequence with S's hand (top to bottom, front panel to pedal).
2. T identifies each outer part of piano case in logical sequence while tracing parts with S's hand.
3. T explains purpose and function of outer part of piano case while tracing parts with S's hand.
4. T requires S to trace outer parts of piano case in logical sequence and name each part.
5. T reinforces S with praise.
6. T requests S to repeat process 4 on a daily basis for two weeks.

2. Identifying the tools for disassembling the piano case.

Instructional Objective. Given the appropriate tools for disassembling the piano case, the student will correctly identify each tool, with 100% accuracy.

Task Analysis.

1. S will identify the plain screwdriver.
2. S will identify the Phillip's screwdriver.
3. S will identify the long nose pliers.
4. S will identify the small hammer.
5. S will identify the steel punch.

2. Identifying the tools for disassembling the piano case.

Instructional Objective. Given the appropriate tools for disassembling the piano case, the student will correctly identify each tool, with 100% accuracy.

Task Analysis.

1. S will identify the plain screwdriver.
2. S will identify the Phillip's screwdriver.
3. S will identify the long nose pliers.
4. S will identify the small hammer.
5. S will identify the steel punch.

10. Muting out strings in treble and base sections by using the rubber wedge and felt mute.

Instructional Objective. Given the proper tools, the student will mute out the strings in the treble and base sections, with 100% accuracy.

Task Analysis.

1. S will insert the muting belt on either side of the first and third string of the middle section, leaving the middle string open on each note.
2. S will pitch Middle C with fork.
3. S will tune temperment by fourths and fifths testing with sixths and thirds.
4. S will continue to tune bass section from right to left by tuning octaves.
5. S will insert rubber wedge between 1st and 2nd string, leaving 3rd open.
6. S will identify 3rd string as the octave to be tuned.
7. S will release second string by removing the mute.
8. S will tune second string by the third string using the same procedure as step #5.
9. S will remove mute.
10. S will tune first string by second and third using the same procedure as #5.
11. S will continue with same procedure in 1-10 for tuning trebble section from left to right.
12. S moves the mutes in same procedure as 1-11 for trebble and bass section remembering that for trebble S moves from left to right and in base S moves from right to left.

13. S removes strip muting felt from middle section by tuning third and first strings by second.

Teaching Procedures.

1. T asks S for definition of unison.
2. S asks S to point to pins and strings which go to the respective strings.
3. T puts S's first finger and thumb on unison.
4. T puts S's hand upward to bottom pin which connects to first string.
5. T moves S fingers up to tuning pin.
6. T allows S to cover his/her hands while T mutes the respective unison.
7. T demonstrates continuous procedure of placing tuning wrench on pin he is tuning until the note is tuned.
8. T provides positive reinforcement.
9. T demonstrates complete process to S while S covers his hand.
10. T requests the S to tune a unison.

19. Tuning octaves by use of rubber wedge mute.

Instructional Objective. The student will tune octaves by using a rubber wedge mute, with 100% accuracy.

Task Analysis.

1. S will mute out second and third string leaving first string open.
2. S will pitch first string with desired octave below.
3. S will remove rubber mute one space to the right.
4. S will pitch the second string of the note with the first string.
5. S will move the rubber mute completely.
6. S will pitch third string with first and third, thus completing the note.
7. S repeats process 1-6 for each octave to end of register moving from left to right.

Teaching Procedures.

1. T will have S identify the note to be tuned.
2. T asks S to point out the unison to be tuned.
3. T covers S's hand and guides S's hand while tracing strings to respective tuning pins.
4. T asks S to trace strings to respective tuning pins independent of T.
5. T instructs S to place tuning wrench on respective pin.
6. T instructs S to place fifth finger on bottom octave to the left and thumb of left hand on top octave to right and strike both notes at same time.
7. T instructs S to move rubber mute one string to the right.
8. T instructs S to pitch second string of first string.
9. T instructs S to remove mute completely.

10. _T_ instructs _S_ to tune third string with first and second.

11. _T_ instructs _S_ to complete process throughout register moving one note to the right each time.

20. Testing by tenths and seventeenths.

Instructional Objective. Given the proper tools, the student will explain the reasons for and demonstrate the proper procedure to test by tenths and seventeenths, with 100% accuracy.

Task Analysis.

1. S will explain that octaves are tuned smoothly.
2. S will explain that tenths are increased as you go up the scale and decrease as you go down the scale.
3. S will explain procedure for correcting tenth when they do not increase or decrease as needed.
4. S will test the notes on the piano by tenths.
5. S will demonstrate process of correcting situation when tenths do not increase or decrease in a constant matter.
6. S will explain purpose of testing by seventeenth.
7. S will demonstrate testing by seventeenth.

Piano Repairperson

Job Description

Repairs, refinishes, and tunes pianos, using specialized tools and gages: Tests components, such as keyboard, pedals, and action assembly, using special tools and gages. Levels keys by inserting paper shims or punchings. Detaches action mechanism and replaces faulty, worn, or broken parts, such as hammers, shanks, and joint connections. Alines hammers and turns screws to adjust striking action of keys. Replaces broken or missing strings. Tunes strings, using tuning hammer and fork. Examines wooden parts for splits, warps, and other defects. Repairs, replaces, resurfaces, and refinishes wooden parts.

Specific Skills

1. Action Repair
    a. Diagnosing the action to be repaired.
    b. Cleaning the action.
    c. Removing necessary parts for action repair.
    d. Extracting hammer heads, shanks and butts.
    e. Extracting hammer heads, shanks and butts.
    f. Drilling out broken hammer shanks.
    g. Cleaning and reshaping old hammer heads.
    h. Replacing catchers.
    i. Replacing butt felts.
    j. Replacing bridle straps.
    k. Replacing hammer flages and butt plates.
    l. Fitting and replacing center pins and flage bushings.
    m. Replacing hammer springs, punchings, and spring rail felt.
    n. Replacing regulating screws, buttons, and punchings.
    o. Replacing damper felts, heads, blocks, and level felts.
    p. Repalcing damper level, flange and springs.

- q. Replacing wipper, sticker, tongue, and flages.
- r. Replacing jack flange and jack spring.
- s. Replacing spoon, bridle wire, and back check wire.
- t. Replacing back check and felt.
- u. Replacing sticker felts.
- v. Replacing hammer rest rail felt.
- w. Replacing bracket and dog felts.
- x. Replacing buckskin on hammer butt.

2. Key Repairs
   - a. Removing old ivories and ivorine.
   - b. Removing old sharps.
   - c. Cleaning the keys.
   - d. Installing new ivories and ivorine.
   - e. Replacing ivory on key fronts.
   - f. Sanding and painting old sharps.
   - g. Replacing old sharps.
   - h. Replacing key bushings.
   - i. Replacing worn key buttons.
   - j. Repairing broken keys.
3. Restringing the Piano (Upright and Grand).
   - a. Removing old strings and tuning pins.
   - b. Gauging old strings and tuning pins.
   - c. Learning methods of ordering bass strings.
   - d. Installing tuning pins and strings.
   - e. Splicing strings.
   - f. Bushing tuning pins.
   - g. Using tuning pin tightener.
   - h. Repairing or replacing loose or split bridges.
   - i. Replacing bridge pins.

j. Replacing broken agrafe.

k. Replacing broken hitch pin.

l. Replacing broken spring.

m. Measuring and preparing universal bass string.

Possible Job Placements

1. Story & Clark Piano Company
   Macon, Ga.
2. Rich's
   Atlanta, Ga.
3. University of Georgia
   Athens, Ga.
4. Wesleyan College
   Macon, Ga.
5. Georgia College
   Milledgeville, Ga.
6. Baldwin Piano Company
   Cincinnati, Ohio
7. Currier Piano Company
   North Carolina
8. Estey Piano Company
   Indiana
9. Grand Piano Company
   North Carolina

1a. Diagnosing the action to be repaired.

Instructional Objective. Given the proper tools, the student will examine the piano to determine what part(s) is in need of repair, with 100% accuracy.

Task Analysis.

1. S gently places finger on top of hammers and moves from side to side to determine if repinning is necessary.
2. S runs finger over the crown to determine if hammers need to be filed or replaced.
3. S strikes individual keys and listens for unnecessary rattles or broken parts.
4. S strikes individual keys to determine if dampers are muting properly.
5. S tests the pitch with a tuning fork.
6. S observes if strings are rusty by running fingers on strings.
7. S determines if tuning pins are loose with the use of a tuning hammer by slightly moving pins.

Teaching Procedures.

1. T places S's fingers on top of hammers and gently moves S's fingers from right to left.
2. T instructs S to note loose hammers.
3. T instructs S to touch loose hammers again so as to become accustomed to the feeling of a loose hammer.
4. T advises S that loose hammers must be removed for repair.
5. T puts S's fingers on crown of hammer.
6. T places hands on top of S's hands while S runs fingers over hammer until S recognizes rough hammers.
7. T instructs S to feel difference between rough and smooth hammers until S can quickly recognize rough ones on initial touch.

8. T advises S that rough hammer must be rounded by sand file or replaced as a means of repair.
9. T strikes individual keys for S to listen for unnecessary sounds.
10. T explains sounds to listen for.
11. T calls out to S the unnecessary sounds while S listens.
12. T asks S to demonstrate striking of keys and identify unnecessary sounds.
13. T demonstrates striking keys and calls out to S the sounds of damper not muting properly.
14. T requests S to demonstrate striking key and identifying unnecessary sound.
15. T requests S to diagnose action to be repaired on a piano using proper techniques.

1b. Cleaning the action.

Instructional Objective. Given the proper materials, the student will appropriately clean and brush the various parts of the piano, with 100% accuracy.

Task Analysis.

1. S uses soft brush or vacuum cleaner to clean the action of dust and foreign particles.
2. S runs brush over hammer.
3. S runs brush over wippers.
4. S blows with a vacuum the parts not accessible by hand (e.g., foreign objects from jacks, tongues, levers, and all flanges).

1y. Removing old ivories and ivorines.

Instructional Objective. Given the proper materials, the student will identify and examine the ivories and ivorines to determine whether they need to be repaired or replaced, with 100% accuracy.

Task Analysis.

1. S identifies ivories and ivorines.
2. S gently runs fingers over keyboard to determine if ivories and ivorines are loose.
3. S gently runs fingers over keyboard to determine if ivories and ivorines are chipped.
4. S gently runs fingers over keyboard to determine if ivories and ivorines are partially gone.
5. S removes fall board and name rail.
6. S removes whole keys from piano by lifting out manually.

Teaching Procedures.

1. T moves S's fingers over ivories and ivorine to determine which ones need to be removed.
2. T places S's fingers on ivories and ivorines that are loose, chipped or partially gone.
3. T requests S to locate ivories and ivorines which need to be removed.
4. T instructs S to remove fall board and name rail.
5. T demonstrates to S the procedure for lifting out keys to be repaired.
6. T shows S how to remove ivories and ivorines from keys by prying off or applying heat.
7. T requests S to remove ivories and ivorines without assistance.

1a. Removing old sharps.

Instructional Objective. Given the proper materials, the student will identify and remove old sharps that need to be repaired or replaced, with 100% accuracy.

Task Analysis.

1. S recognizes need to repair sharps.
2. S removes fall board and name rail.
3. S removes whole keys from piano by lifting out manually.
4. S removes old sharps by prying them gently with a knife or chisel.

2a. Removing old strings and tuning pins.

Instructional Objective. Given the proper tools, the student will identify and replace broken strings, with 100% accuracy.

Task Analysis.

1. S identifies broken strings.
2. S traces broken strings to the pin where it is broken from.
3. S gently turns pin to the left with tuning wrench.
4. S removes pin from pin block.
5. S prys off coil of old string with small screwdriver.
6. S proceeds with replacing string and tuning pin.

Teaching Procedures.

1. T traces S's fingers along pin to find loose coils.
2. T traces S's fingers from loose coil to broken string.
3. T puts hand over S's hand while S grasps tuning wrench.
4. T turns S's hands so as to loosen pins with tuning wrench.
5. T demonstrates to S the procedure for removing old coil from pin with a small screwdriver.
6. T watches S demonstrate how to pry off coil from the old pin.
7. T demonstrates to S how to fit pin to slots in pin gauge and the old string to the string gauge.
8. T demonstrates to S how to fit new pin and new string to same slots as old ones.
9. T requests S to remove old strings and tuning pins without assistance.

2b. Gauging old strings and tuning pins.

Instructional Objective. Given the proper tools, the student will identify and replace old strings and tuning pins, with 100% accuracy.

Task Analysis.

1. S identifies pin gauge and tuning gauge as having slots of various sizes with corresponding numbers.
2. S finds the size of the old pin or string which is to be replaced.
3. S finds slot that old pin or string fits.
4. S determines new string to be replaced by fitting new strings into the slot of old string.

CHAPTER EIGHT

HORTICULTURE SUBDOMAIN

Nancy Westwood

Georgia Academy for the Blind

HORTICULTURE SUBDOMAIN

This subdomain includes occupations concerned with propagating and raising products, such as nursery stock, flowers, flowering plants, flower seeds, bulbs, and turf grasses. Also included are occupations concerned with growing food crops, such as mushrooms and rhubarb, which require controlled environmental conditions. The specific job skills can be taught ideally to the young student with increasingly complex skills presented as the student becomes older and more proficient. Skills in horticulture are also excellent for helping visually impaired students acquire appropriate leisure skills, e.g., working with plants. The occupations of greenhouse worker and nursery laborer are analyzed below as sample jobs from the horticulture subdomain.

Greenhouse Worker

Job Description

Plants, cultivates, and harvests horticultural specialties, such as flowers and shrubs, and performs related duties in environmentally-controlled structure applying knowledge of environmental systems: Ascertains growing schedules and deviations from established procedures from grower or manager. Sows seed and plants cuttings. Looks at and feels leaf texture, bloom development, and soil condition to determine nutrient and moisture requirements and to detect and identify germ and pest infestations. Sets fertilizer timing and metering devices that control frequency and amount of nutrients to be introduced into irrigation system. Applies herbicides, fungicides, and pesticides to destroy undesirable growth and pests, using spray wand connected to solution tank. Reads and interprets sensing indicators and regulates humidity, ventilation, and carbon dioxide systems to control environmental conditions. Grafts scions to seedling stock. Pollinates, prunes, transplants, and pinches plants, and culls flowers, branches, fruit, and plants to insure development of marketable products. Harvests, packs, and stores crop, using techniques appropriate for individual horticultural specialty. May maintain and repair hydroponic and environmental control systems. May maintain and repair structures, using materials, such as corrugated fiberglass panels, lath, glass panes, and putty, and tools, such as hammer, saw, and putty knife.

Specific Skills

1. Recognizing the major parts of a plant and their functions.
2. Recognizing greenhouse tools and supplies and their uses.
3. Recognizing greenhouse equipment, e.g., heater, fan, sink, benches.
4. Washing a flower pot.
5. Planting seeds.
6. Transplanting seedlings.
7. Taking cutting.
8. Checking to see if cuttings have rooted.
9. Identifying 10 kinds of houseplants.
10. Recognizing when a plant needs watering.
11. Using a water hose, watering can, and water faucet.
12. Watering a plant.
13. Mixing fertilizer.
14. Applying fertilizer to potted plants.
15. Loading plants into a vehicle.
16. Pushing a wheel barrow.
17. Pruning back a plant.
18. Recognizing the components of potting soil.
19. Mixing potting soil.
20. Repotting a plant.

Possible Job Placements

1. Willow Creek Nursery

   Columbus Road

   Contact Neil Hamilton at 935-2215

2. Willow Springs Nursery

   4753 Log Cabin Drive

   Contact Allen Turner at 788-8211

Instructional Strategies

1. Recognizing the major parts of a plant and their functions.

Instructional Objective. Given any plant, the student will point out leaves, stem, and roots and tell their function, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. S will look and/or feel plant.
2. S will indicate the leaves of the plant.
3. S will state that the leaves need air and light.
4. S will indicate the roots of the plant.
5. S will state that the roots need soil and water.
6. S will indicate stem of plant.
7. S will state that the stem takes food and water from the roots to the leaves.

Teaching Procedures.

1. T will give S a plant.
2. T will place S's hands on leaves.
3. T will ask S to describe what he/she feels and/or sees.
4. T will state, "That is a leaf," and spell it.
5. T will ask S, "What is it?"
6. T will reinforce S.
7. T will state that leaves need light and air; therefore leaves should always be up.
8. T will repeat steps 2-7 for roots, except 7 will be "soil and water" and "down."
9. T will repeat steps 2-7 for stem, except 7 will be "the stem takes food and water taken in by the roots and transports it to the leaves."
10. T will ask S to repeat the exercise, giving cues as necessary.

2. Recognizing greenhouse tools and supplies and their uses.

Instructional Objective. Given a watering hose, watering can, flower pot, potting soil, peat moss, and trowel, the student will identify each item and its use, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. S will look and/or feel garden hose.
2. S will identify it.
3. S will state that it is used to water plants.
4. S will repeat steps 1-3 for:

watering can - water plants,
flower pots - to put plants in,
potting soil - to put in flower pot and around roots of plants,
peat moss - to mix into potting soil, and
trowel - to dig with.

11. Using a water hose, watering can, and water faucet.

Instructional Objective. Given a hose, can, and faucet, the student will fill the can with water, 5 out of 5 times on 3 consecutive days.

Task Analysis.

1. S will look and/or feel at given items.
2. S will pick up hose.
3. S will find "female" end of hose.
4. S will screw hose onto water faucet tightly.
5. S will take other end of hose and place in watering can.
6. S will turn water faucet on.
7. S will turn faucet off when the top is reached.
8. S will remove hose from watering can.

Teaching Procedures.

1. T will assemble hose, can near water faucet.
2. T will ascertain S knows identity and function of each item.
3. T will pick up hose at female end and show to student.
4. T will place S's hand on end and instruct him or her to feel threads on the inside of fitting.
5. T will place S's hand on water faucet and point out threads on outside of fitting.
6. T will explain that threads fit onto each other.
7. T will assist S in connecting hose to faucet.
8. T will ask S to do #7 alone.
9. T will reinforce.

[illegible]d S in turning on faucet and filling can.

11. T will aid S in turning off faucet when can is full.
12. T will reinforce.

12. Watering a plant.

Instructional Objective. Given the command to water a given plant, the student will properly apply water using a watering can or hose as appropriate, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. S will look and/or feel plant to be watered.
2. S will connect water hose to faucet.
3. Depending on T's instructions, S will either turn on water hose only, or turn on hose, fill up watering can, and turn off hose.
4. S will either put hose to base of plant, or with can, pour water around base of plant.
5. S will stop applying water.
6. S will stick his/her finger into soil to see how far down water went.
7. If S feels any dry soil, he/she will repeat steps 3-5.
8. S will, if using hose, turn off hose.

19. Mixing potting soil.

Instructional Objective. Given plain soil, container for mixing and measuring, peat moss, water supply, and the verbal command, "mix potting soil," the student will mix the soil as described in the task analysis, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. S will identify components to be used.
2. S will pick up measuring can.
3. S will listen to mixture to be made, i.e., 1 can of "plain" soil to 2 cans of peat moss to ½ can water.
4. S will scoop up 1 can of "plain" soil and pour into mixing container.
5. S will scoop up 2 cans of peat moss and pour into mixing container.
6. S will mix the 2 together using hands.
7. S will fill can half full of water and pour into container of soil.
8. S will mix up thoroughly until mixture feels evenly damp.

20. Repotting a plant.

Instructional Objective. Given a plant that needs to be repotted, a new pot, potting soil, and the command to repot the plant, the student will repot the plant following the steps in the task analysis, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. S will look and/or feel plant, soil, and new pot.
2. S will check to see if pot has a hole in the bottom.
3. If S ascertains the existence of a hole, he/she will place a ceramic piece of pot over the hole.
4. S will gauge the amount of soil needed in the pot by determining the size of the rootball.
5. S will put enough soil into the pot to fill it to the desired level.
6. S will pack the soil down firmly with his/her hands.
7. S will look at soil level to determine whether more soil needs to be added.
8. S will add more soil if necessary to fill pot to desired level.
9. S will pick up plant.
10. S will determine center of pot.
11. S will place plant, into pot, near the center.
12. S will hold plant in place with one hand.
13. With his/her other hand, S will place soil around roots.
14. S will pack soil down as it is put in place.
15. S will continue steps 13 and 14 until rootball is covered.
16. S will take plant to sink or water faucet.
17. S will water plant thoroughly.

Teaching Procedures

1. T will identify pot, plant, and potting soil.
2. T will stick finger through hole in bottom of pot to emphasize its existence.
3. T will pick up piece of ceramic pot and place over hole, holding pot in air with one hand for demonstration purposes.
4. T will set pot on work surface and again place ceramic piece over hole.
5. T will ask S to determine if his/her pot has a hole.
6. If it does, T will ask S to place ceramic piece over hole.
7. T will reinforce with praise.
8. T will pick up plant.
9. T will explain that next step is to determine amount of soil that goes into the pot before the plant goes in.
10. T will hold plant in pot, demonstrating desired planting depth.
11. Still holding plant with 1 hand, T will measure with fingers space between bottom of pot and bottom of rootball.
12. T will state that this measurement represents the amount of soil that goes in before the plant does.
13. T will place the determined amount of soil in pot.
14. T will explain that this soil must be packed down.
15. T will pack down soil.
16. T will again place plant in pot, this time on top of soil, to check whether plant sits at right depth.
17. If plant is sitting too high or too low, T will point this out.
18. T will ask S what corrective actions need be taken, i.e., "The plant is too high, what must we do to make it sit lower in the pot?"
19. If correct answer is given, T will reinforce S.

20. If incorrect or no answer is given, T will supply and demonstrate correct answer.

21. T will ask S to fill his/her pot giving tactile and verbal cues as necessary.

22. T will reinforce with praise when task is complete.

23. T will pick up plant once again and place in her pot.

24. T will put soil around roots of her plant, packing it as she goes, until rootball is covered completely.

25. T will ask S to do same with his/her plant and pot, guiding him/her through step.

26. T will reinforce S.

27. T will explain that last step is to water the plant helping it "settle in" to its new home.

28. T will pick up plant and take it to sink, instructing S to do same.

29. T will turn on faucet and water his/her plant.

30. T will ask S to do same, offering necessary cues.

31. T will reinforce S.

Nursery Laborer

Job Description

Performs any combination of following duties concerned with preparing soil and growth media, cultivating, and otherwise participating in horticultural activities under close supervision on acreage, in nursery, or in environmentally-controlled structure, such as greenhouse and shed: Hauls and spreads topsoil, fertilizer, peat moss, and other materials to condition land. Digs, rakes, and screens soil and fills cold frames and hot beds to prepare them for planting. Fills growing tanks with water. Plants, sprays, weeds, and waters plants, shrubs, and trees. Sows grass seed and plants plugs of sod and cuts, rolls, and stacks sod. Prepares scion and ties buds to assist worker budding nursery stock. Traps and poisons pests, such as moles, gophers, and mice. Plants shrubs and plants in containers. Ties, bunches, wraps and packs flowers, plants, shrubs, and trees to fill orders. Moves containerized shrubs and trees, using wheelbarrow. Digs up shrubs and trees and wraps their roots with burlap.

Specific Skills

1. Identification of shrubs and trees commonly encountered as nursery stock.
2. Identification of nursery materials, supplies, and their uses.
3. Identification of hand tools.
4. Safety awareness when using tools.
5. Using digging tools.
6. Using rakes.
7. Using cutting tools: Pruning clippers, hedge shears, lopping shears, hatchet, pruning saws, swing blades, bush axe.
8. Using a pump sprayer.
9. Using a wheelbarrow.
10. Pruning trees.

11. How to prune shrubs uniformly.
12. Grafting nursery stock.
13. Taking cuttings of shrubs and rooting them.
14. How and when to water nursery stock, grass, shrubs, planting beds.
15. Correct method of fertilizing nursery stock, grass, shrubs, planting beds.
16. How to plant shrubs.
17. How to dig up shrubs.
18. How to prepare shrubs for transport (ball and burlap).
19. Preparation of planting beds.
20. Planting beds with bulbs, bedding plants, or seeds.

Possible Job Placements

1. Johnson's Garden Center
   140 Hartly Avenue
   Contact Mrs. Johnson at 745-7662
2. Willow Springs Nursery
   4753 Log Cabin Drive
   Contact Allen Turner at 788-8211

Instructional Strategies

1. Identification of shrubs and trees commonly encountered as nursery stock.

Instructional Objective. Given the task, the student will identify by name 75% of the shrubs and trees found on campus on 3 consecutive days.

Task Analysis.

1. S will examine shrub or tree.
2. S will describe foliage, bark, flowers, etc.
3. S will name the shrub or tree.

Teaching Procedures.

1. T will point out shrub or tree to be named.
2. T will instruct S to examine foliage.
3. T will ask S to describe foliage, pointing out outstanding characteristics.
4. T will supply plant's name, repeating identifying characteristics.
5. T will spell name and repeat it.
6. T will ask S to repeat name, giving cues as needed.
7. T will reinforce.
8. T will ask S to remove a leaf and twig.
9. T will instruct S to glue into notebook along with name and identifying characteristics.
10. T will periodically review notebooks and line specimens.
11. T will reinforce as appropriate.

5. Using a wheelbarrow.

Instructional Objective. Given a loaded wheelbarrow, the student will push it a specified distance without turning it over, then empty the contents in a designated area, 5 out of 5 times on 3 consecutive days.

Task Analysis.

1. S will look at wheelbarrow.
2. S will go to handles of wheelbarrow.
3. S will place hands firmly on handles.
4. S will bend knees.
5. S will straighten knees, thereby lifting wheelbarrow.
6. S will keep elbows straight.
7. S will walk forward, thereby pushing wheelbarrow.
8. S will continue walking to designated dumping area.
9. S will lift wheelbarrow handles until load spills onto ground.
10. S will lower handles.
11. S will remove hands from handles.

Teaching Procedures.

1. T will show S the wheelbarrow.
2. T will place her hands on wheelbarrow handles in proper manner.
3. T will straighten arms.
4. T will bend at knees and then straighten, picking up the wheelbarrow.
5. T will ask S to place hands on wheelbarrow, aiding S in proper placement according to height.
6. T will remind S to keep arms straight letting shoulders and legs do the work.

7. T will instruct S to bend knees, then stand straight thereby picking up barrow.
8. T will physically assist S in steps 5-7.
9. T will ask S to reverse steps 6 and 7, and put wheelbarrow down.
10. T will ask S to repeat steps 5-7 giving only verbal cues.
11. T will reinforce with praise as appropriate.
12. T will ask S to repeat steps 5, 6, and 7.
13. T will ask S to walk forward, thereby pushing wheelbarrow, giving physical assistance and verbal cues as necessary.
14. T will ask S to practice all steps in designated area with empty barrow.
15. Repeat step 14 with moderately loaded barrow.
16. T will reinforce as necessary.

10. Pruning trees.

Instructional Objective. Given a tree with a dead limb approximately 5 inches in diameter, the student will remove the limb safely following the steps in the task analysis, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. S will look at tree.
2. S will determine point closest to main truck that he/she can use saw.
3. S will pick up saw, and grip handle, upside down.
4. S will begin sawing under the limb (sawing up) at point closest to main truck.
5. S places thumb of free hand at point found in step 4.
6. S will position saw with handle end of blade next to thumbnail.
7. S will draw handle toward him/her self, exerting pressure upward with arm and shoulder.
8. S will push handle away in same manner.
9. S will continue steps 7 and 8 until cut extends 1/3 way into limb.
10. S will withdraw blade.
11. S will turn saw handle right side up.
12. S will position thumb, saw, and blade on spot approximately 1 inch farther out on limb than 1st cut, and on top side of limb.
13. S will repeat steps 7 and 8, exerting pressure down.
14. S will continue step 13 until limb is severed from tree.
15. S will look at wound.
16. S will coat wound with motor oil to prevent entrance of insects and disease.

19. Preparation of planting beds.

Instructional Objective. Given a site, tools, and nutrients, the student will spade ground; apply fertilizer, lime, and peat moss; spade again, thoroughly turning ground over and working in nutrients; rake ground smooth and level on 3 consecutive days.

Task Analysis.

1. S will look at site and mark boundaries.
2. S will pick up shovel.
3. S will position shovel, place 1 foot on blade and push, thereby "digging."
4. S will continue digging until all ground within boundaries is turned over to a spade's depth.
5. S will apply given fertilizer to site in correct amount, covering area entirely and evenly.
6. S will apply lime, if given by T, to site in correct amount and manner.
7. S will spread given amount of peat moss on site.
8. S will pick up spading fork, place foot on tine heel and push into ground.
9. S will lift up fork, simultaneously turning tines over, thereby dumping contents onto ground in an inverted position.
10. S will continue until entire site has thusly been manipulated and all nutrients are thoroughly worked into ground.
11. S will pick up garden rake, and pull tines over site until ground is level and smooth.

Teaching Procedures.

1. T will mark boundaries of planting bed site clearly.
2. T will pick up shovel and begin digging, asking S to observe.

3. T will give shovel to S and instruct to continue until entire area is spaded.
4. T will reinforce as appropriate.
5. T will pick up pre-measured container of fertilizer.
6. T will ask S to identify substance and its prupose, giving cues as needed.
7. T will ask S to distribute fertilizer evenly over site, showing S number of handfuls per step he/she must apply.
8. T will repeat steps 5-7 for other nutrients.
9. T will work a small area to readiness.
10. T will ask S to examine readied area.
11. T will ask S to repeat step 3 until his/her site is broken up to same degree.
12. During steps 3 and 11, T will explain reasons behind labor in terms S can relate.
13. T will reinforce as appropriate.
14. T will explain reasons level site is needed.
15. T will instruct S to use garden rake to rake site smooth.
16. T will reinforce.

20. **Planting beds with bulbs, bedding plants, or seeds.**

Instructional Objective. Given a prepared bed and fertilizer, the student will demonstrate correct methods of planting bulbs, bedding plants, and/or seeds, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. **S** will examine bed to make sure it's properly prepared.
2. **S** will take bulb and pick up bulb planter.
3. **S** will make hole of correct depth.
4. **S** will add fertilizer (bone meal).
5. **S** will examine bulb to determine which end goes down.
6. **S** will place bulb in hole correctly.
7. **S** will cover bulb to desired level, and pack soil firmly.
8. **S** will examine bedding plants.
9. **S** will dig hole to desired depth.
10. **S** will add fertilizer.
11. **S** will place plant into hole at correct level.
12. **S** will pack soil firmly around roots of plant.
13. **S** will water plant generously.
14. **S** will examine seeds.
15. **S** will repeat step 10.
16. **S** will place seed in hole.
17. **S** will cover seed with soil and tamp ground lightly.
18. **S** will water lightly.

CHAPTER NINE

SERVICE SUBDOMAIN

Helen McDaniel

Georgia Academy for the Blind

SERVICE SUBDOMAIN

This subdomain includes occupations concerned with services typically provided in restaurants, motels, hotels, and hospitals. The specific skills are also critical to independent or semi-independent living in a group home. The occupations of janitor and kitchen helper are analyzed below as sample jobs from the service subdomain.

Janitor

Job Description

Keeps hotel, office building, apartment house, or similar building in clean and orderly condition and tends furnace, air conditioner, and boiler to provide heat, cool air, and hot water for tenants, performing any combination of following duties: Sweeps and mops or scrubs hallways and stairs.

Specific Skills

1. Using a broom.
2. Using a wet mop.
3. Cleaning the bathroom.
4. Vacuuming.
5. Waxing a floor.
6. Cleaning an ashtray.

Possible Job Placements

1. Howard Johnson's Motel
   Riverside Drive
2. Town and Country Convalescent Home
   1060 Old Clinton Road
   746-0266

Instructional Strategies

1. Using a broom.

Instructional Objective. The student will demonstrate the proper use of the broom on a given floor surface with 100% accuracy.

Task Analysis.

1. S will move all small and lightweight objects from the area to be swept.
2. S will start at one corner of the room and sweep toward the center, keeping the broom constantly in contact with the floor.
3. S, working without shoes, will systematically sweep until the area has been completed.
4. S will gather the dirt into a small pile, using the broom as an aid and holding the handle at the top of the bristles with the right hand.
5. S will hold the dust pan in the left hand.
6. S will push the dirt onto the pan with the broom.
7. S will move the pan back slightly and continue to push the remaining dirt onto it until it is all collected.
8. S will empty the dust pan into a wastebasket.
9. S will repeat steps 4-8 above if any dust or dirt is left on the floor surface.
10. S will replace all objects which had been moved.
11. S will place the broom and dust pan in the storage area.

Teaching Procedures.

1. T will point out various floor surfaces of linoleum, tile, wood, carpet or rug to S.
2. T will discuss with S the various surfaces in relation to sweeping.
3. T will demonstrate the proper procedure for sweeping a floor.

4. T will discuss the procedure with S.

5. T will reinforce S.

2. Using a wet mop.

Instructional Objective. Given a sponge mop, bucket, detergent, water, and a dirty floor surface, the student will mop the floor with 100% accuracy during three consecutive trials.

Task Analysis.

1. S will move all light weight objects from the area to be mopped.
2. S will moisten the mop with warm water.
3. S will squeeze out excess water from the mop.
4. S will firmly hold the mop slightly to the right side of the body with the left hand at the middle of the handle and the right hand near the top end.
5. S will periodically stop to rinse to mop in order to keep it clean.
6. S will work in the same systematic fashion as was used to sweep the floor.
7. S will replace all objects which had been moved.
8. S will rinse the sponge when finished.
9. S will put the mop away where it can dry thoroughly.
10. S will empty water from the bucket.
11. S will place mop in the storage area.

3. Cleaning the bathroom.

Instructional Objective. Given the proper materials, the student will be able to properly clean the bathroom basin, tub and toilet bowl with 100% accuracy.

Task Analysis.

1. S will remove the soap and any other objects from the sink area.
2. S will use a sponge on a clean, soft cloth for the scouring powder.
3. S will damper sponge or cloth.
4. S will apply scouring powder to the sponge or cloth.
5. S will begin scrubbing the top of the basin, washing around the fixtures.
6. S will work in a circular pattern, starting on one side and working gradually to the other side.
7. S will close the stopper and do the sides of the basin.
8. S will clean the bottom of the basin.
9. S will scrub the top of the stopper.
10. S will wipe the sides and bottom of the basin with a clean, thoroughly wet cloth or sponge.
11. S will examine by touch to see if everything is clean and all scouring powder is removed.
12. S will repeat the procedure in steps 1-8 if necessary.
13. S will rinse and squeeze dry the sponge or cloth.
14. S will hand up the cloth or sponge to dry.
15. S will lift out the stopper to remove hair and other particles collected in it.
16. S will rinse off stopper and replace it.
17. S will polish all fixtures by rubbing them with a clean, dry cloth.

18. S will wash and rinse the tub in the same manner described for the sink basin.

19. S will wash the inside of the toilet bowl with a cloth, sponge or toilet brush and detergent, making sure to wear rubber gloves.

20. S will put some detergent on the cloth, sponge or brush.

21. S will clean the top, sides and bottom.

22. S will flush the toilet before adding a commercial cleaner or disinfectant.

23. S will allow the product to stay in for the amount of time recommended on the container.

24. S will clean around the outside of the toilet bowl, beginning at the edge of the bowl and going completely around.

25. S will wipe the top and underneath surfaces with a wet cloth or sponge and detergent.

26. S will rinse the area well.

27. S will wipe the top and sides of the toilet tank with a wet cloth or sponge and detergent.

28. S will rinse the area well.

29. S will wash the tub; shower and tile walls with a wet cloth or sponge and detergent or commercial tile cleaner.

30. S will rinse these surfaces well.

Teaching Procedures.

1. T will discuss the various surface areas in a bathroom.

2. T will discuss cleaning materials and their use in cleaning a bathroom.

3. T will discuss the various commercial cleaning products and their use in cleaning the bathroom.

4. T will demonstrate the proper procedure for cleaning the sink.

5. T will demonstrate the proper procedure for cleaning the toilet bowl.
6. T will demonstrate the proper procedure for cleaning the tub, shower and tile walls.
7. T will discuss the demonstrations with S.
8. T will reinforce S.

3. Vacuumming.

Instructional Objective. Given a vacuum and a specified section of rug, area not larger than 10' by 10', the student will vacuum the rug with 100% accuracy in 30 minutes during three consecutive trials.

Task Analysis.

1. S will put movable objects out of the way of the area to be vacuumed.
2. S will bring vacuum to rug.
3. S will unwind cord.
4. S will put vacuum plug in nearest electric outlet.
5. S will turn switch to on position.
6. S will hold metal tube of vacuum so that cleaning attachment is flat on rug.
7. S will stand one foot away from edge of area to be cleaned on the left side of the area.
8. S will begin at the outer edge of area, pushing attachment across area.
9. S will pull attachment back to original position.
10. S will move on-half step to the right.
11. S will repeat steps 6-10 until entire rug surface has been cleaned.
12. S will turn switch to off position.
13. S will take electric plug out of electric outlet.
14. S will wind electric cord around vacuum.
15. S will take vacuum and attachments and store them in the proper place.
16. S will move objects back in the proper place.

Teaching Procedures.

1. T will tape off a section of rug to be vacuumed.
2. T will demonstrate the proper procedure to vacuum the section.
3. T will discuss the procedure with S.
4. T will allow S to vacuum.
5. T will reinforce S.
6. T will enlarge the taped area S becomes more competent at the task.

5. Waxing a floor.

Instructional Objective. Given a sponge mop, a can of liquid wax and a clean floor surface, the student will wax the floor with 100% accuracy during three consecutive trials.

Task Analysis.

1. S will examine the area to be waxed.
2. S will pick up and open the can of wax.
3. S will move to a corner section of the area to be waxed.
4. S will pour a small amount of wax on the floor.
5. S will grasp the sponge mop with both hands.
6. S will place sponge on top of the wax on the floor.
7. S will move sponge mop in a back and forth motion.
8. S will evenly spread wax on the floor section.
9. S will move over several steps to a new section.
10. S will repeat steps 2-8 until the entire floor surface has been done.
11. S will close the can of wax.
12. S will rinse out the sponge.

Teaching Procedures.

1. T will discuss the proper procedure to wax a floor.
2. T will demonstrate the proper procedure to wax a floor.
3. T will use a piece of construction paper comparable in size to the amount of wax placed on the floor as a demonstration.
4. T will allow S to practice pouring "wax" on a floor space by replacing it with water.
5. T will instruct S to compare the amount of "wax" they have put on the floor surface to the construction paper example.
6. T will mark the mop handle with colored tape to indicate hand positions (e.g., red for left, blue for right).

7. I will reinforce S.

6. Cleaning an ashtray.

Instructional Objective. Given a dirty ashtray, a cloth and a trash can, the student will clean the ashtray in two minutes with 100% accuracy during three consecutive trials.

Task Analysis.

1. S will look at ashtray.
2. S will pick up ashtray with preferred hand.
3. S will carry the ashtray to the trashcan.
4. S will place ashtray over the trashcan.
5. S will empty ashtray into the trashcan.
6. S will pick up cloth.
7. S will wipe ashtray with cloth.
8. S will continue wiping until ashtray is clean.
9. S will put cloth down.
10. S will replace ashtray to original position.

Teaching Procedures.

1. T will describe the proper procedure to S.
2. T will demonstrate the proper procedure to S.
3. T will show S an example of a clean ashtray.
4. T will reinforce S.

Kitchen Helper

Job Description

Performs any combination of the following duties to maintain kitchen work areas and restaurant equipment and utensils in clean and orderly condition: Sweeps and mops floors. Washes worktables, walls, refrigerators, and meat blocks. Segregates and removes trash and garbage and places it in designated containers. Steam-cleans or hoses-out garbage cans. Sorts bottles, and breaks disposable ones in bottle-crushing machine. Washes pots, pans, and trays by hand. Scrapes food from dirty dishes and washes them by hand or places them in racks or on conveyor to dishwashing machine. Polishes silver, using burnishing-machine tumbler, chemical dip, buffing wheel, and hand cloth. Holds inverted glasses over revolving brushes to clean inside surfaces. Transfers supplies and equipment between storage and work areas by hand or by use of handtruck. Sets up banquet tables. Washes and peels vegetables, using knife or peeling machine.

Specific Skills

1. Sweeping floors.
2. Mopping floors.
3. Washing dishes by hand or placing them in dishwasher.
4. Drying dishes.
5. Washing worktables, walls, refrigerators, and meat blocks.
6. Segregating and removing trash and garbage.
7. Placing trash and garbage in designated container.
8. Steam cleaning or hosing out garbage cans.
9. Sorting bottles.
10. Opening cans of food.
11. Slicing foods.
12. Washing pots, pans, and trays by hand.
13. Placing silver in basket, separating knives, forks, and spoons.

14. Placing glasses in racks or trays inverted on conveyor to dishwashing machine.
15. Tranferring supplies and equipment between storage and work areas by hand or by use of hand truck.
16. Setting tables.
17. Washing and peeling vegetables, using knife or peeling machine.
18. Turning on electric stove.
19. Busing tables.
20. Serving beverages during meal.
21. Sweeping with regular broom (with bare feet).
22. Taking up trash.
23. Making mopping suds.
24. Squeezing mop.
25. Rinsing floors.
26. Squeezing leaning cloths.
27. Washing, rinsing, and drying dishes.
28. Washing, rinsing, and drying utensils, pots, and pans.
29. Polishing silver.
30. Wiping tables.
31. Scraping plates before washing.
32. Storing tools, equipment and supplies in certain place.
33. Using and caring for small tools.
34. Using and caring for small appliances.

Possible Job Situations

1. Bel-Arbor, Inc.
   3468 Napier Avenue
   477-4464

2. Town and Country Convalescent Home

   1060 Old Clinton Road

   746-0266

Instructional Strategies

3. Washing dishes by hand.

Instructional Objective. Given the proper materials, the student will correctly wash and dry the dishes, with 100% accuracy during three consecutive trials.

Task Analysis.

1. S will wash and rinse sinks.
2. S will distinguish between hot and cold water.
3. S will adjust hot and cold water to appropriate temperature.
4. S will place stopper so that rinse sink begins to fill.
5. S will fill rinse sink ½ full.
6. S will place stopper so that wash sink begins to fill.
7. S will identify and pick up detergent.
8. S will add detergent to wash sink/a one second squeeze of bottle.
9. S will fill wash sink ½ full.
10. S will place all dirty dishes in wash sink, except cooking pans.
11. S will scrub each piece thoroughly.
12. S will rinse each piece thoroughly.
13. S will place each piece in dish rack.
14. S will place all cooking pans in wash sink.
15. S will repeat steps 11-13.
16. S will manipulate stopper so that sink drains.
17. S will wash and rinse sinks.
18. S will empty debris from stopper.
19. S will hold unfolded towel in one hand.
20. S will hold piece in piece in opposite hand.
21. S will dry entire surface of piece with towel.
22. S will place dry piece in appropriate storage cabinet.

23. S will repeat steps 1-4 until all pieces are dried and put away.

Teaching Procedures.

1. T will discuss the proper procedure to wash and dry dishes.
2. T will discuss the materials necessary to properly wash and dry dishes.
3. T will demonstrate the proper procedure to wash and dry dishes.
4. T will discuss the demonstration.
5. T will instruct S to wash and dry dishes.
6. T will reinforce S.

10. Opening cans of food.

Instructional Objective. Given the proper materials, the student will properly open a can with a manual opener, with 100% accuracy during three consecutive trials.

Task Analysis.

1. S will place can on counter.
2. S will pick up can opener by grasping top handle of opener with right hand.
3. S will place cutting edge of opener over rim of can.
4. S will grasp both handles of opener with left hand and squeeze together so that hole is punched in can.
5. S will grasp turning key with right hand so that thumb is on under side of end closest to S and first 2 fingers are on top side of end furtherest away.
6. S will turn key away from him 180°.
7. S will repeat steps 5 and 6 until can is opened.
8. S will drop left hand to hold only bottom handle and grasp top handle with right hand.
9. S will pull handle apart and lift.
10. S will put opener on counter.
11. S will push one side of lid down.
12. S will grasp opposite edge of lid with thumb and index finger of opposite hand.
13. S will lift lid from trash receptacle.
14. S will throw lid from can into trash receptacle.
15. S will replace trash receptacle top.

11. Slicing foods.

Instructional Objective. Given the proper tools and a vegetable, the student will slice the vegetable with 100% accuracy during three consecutive trials.

Task Analysis.

1. S will look at vegetable.
2. S will reach toward vegetable with left hand (if S is right-handed).
3. S will pick up vegetable with left hand.
4. S will place vegetable on cutting board.
5. While holding vegetable with left hand, S will look at knife.
6. S will reach toward knife with right hand.
7. S picks up knife with right hand.
8. While holding vegetable with left hand, S will use knife to slice the vegetable approximately ¼" from right end.
9. S repeats step 8 until all of vegetable has been sliced.
10. S will place knife to the side.

Teaching Procedures.

1. T will discuss the proper procedure to slice food with S.
2. T will discuss the proper way to handle a knife.
3. T will demonstrate the proper procedure to slice a vegetable.
4. T will discuss the demonstration with S.
5. T will allow S to slice a vegetable.
6. T will reinforce S.

18. Turning on electric stove.

Instructional Objective. The student will demonstrate the proper procedure to turn on an electric stove with 100% accuracy within three consecutive trials.

Task Analysis.

1. S will stand approximately one foot away from stove.
2. S will place hand on control knob of specified burner.
3. S will turn knob clock-wise in right direction to designated temperature (1st click - high, down to 6:00 o'clock - medium, over to 9:00 o'clock - low).
4. S will leave knob on for a few seconds.
5. S will turn knob to "off" position.

Teaching Procedures.

1. T will point out the various features of an electric stove to S.
2. T will demonstrate the proper procedure to turn on the stove, making the association between the positions of the knob and positions on a clock.
3. T will discuss the demonstration with S.
4. T will reinforce S.

19. Busing tables.

Instructional Objective. Given the proper materials, the student will correctly bus a dirty table with 100% accuracy during three consecutive trials.

Task Analysis.

1. S will approach table with tray and cleaning rag.
2. S will place tray on bench adjacent to table.
3. S will place rag on table.
4. S will stack up plates.
5. S will pick up plates.
6. S will place plates in tray.
7. S will pick up 2 glasses.
8. S will place 2 glasses in tray.
9. S will repeat steps 7 and 8.
10. S will gather up silverware in both hands quickly.
11. S will place silverware in tray.
12. S will gather up napkins in both hands quickly.
13. S will place napkins in tray.
14. S will pick up ashtray in preferred hand.
15. S will empty ashtray in tray.
16. S will pick up cleaning rag in opposite hand.
17. S will wipe out ashtray.
18. S will place ashtray on back edge of table.
19. S will place cleaning rag on table.
20. S will scoop up change at edge of table using both hands.
21. S will place change in ashtray.
22. S will pick up cleaning rag in preferred hand.
23. S will wipe off table top thoroughly with cleaning rag.
24. S will visually check bench seats.

25. S will wipe off bench seats as necessary.

26. S will place cleaning rag in trays.

27. S will pick up tray.

28. S will take tray to dishwashing area.

CHAPTER TEN

TRADE AND INDUSTRIAL SUBDOMAIN

David Lurry and Worth Mason

Georgia Academy for the Blind

TRADE AND INDUSTRIAL SUBDOMAIN

This subdomain includes occupations concerned with any industrial pursuit, skilled or semi-skilled trade or craft which directly functions in the designing, producing, processing, assembling, maintaining, servicing, or repairing of any product. Service occupations that are trade and industrial in nature are also included. The occupations of maintenance helper, cabinetmaker helper, furniture refinisher, and small-engine mechanic are analyzed below as sample jobs from the trade and industrial subdomain.

Maintenance Helper

Job Description

Assists maintenance repairer in repairing and maintaining machinery, plumbing, physical structure, and electrical wiring and fixtures of commercial and industrial establishments: Bends and cuts conduit, cuts wires, and drills holes in walls, floors, or ceilings for electrical connections. Connects wires to motors, fixtures, and other electrical equipment, replaces switches and fuses, and splices wires and insulates wires with friction tape. Bends, cuts, and threads pipe, cuts openings in walls, ceilings, and floors for pipes, and seals pipe joints with sealing compound or molten lead. Dismantles machines or equipment, replaces defective parts and motors, and adjusts feed mechanisms. Performs routine maintenance on machines, such as cleaning and lubricating shafts, pulleys, gears, and bearings, using rags, brushes, grease gun, and oilcan. Cuts out and joins parts for worktables, benches, shelves and other furnishings, using hand tools and materials, such as saws, hammers, nails, and screws. Paints walls, ceilings, or fixtures of building. Patches or replaces plaster, clears clogged drains, and replaces washers. Replaces or repairs machine belts. Removes dust, dirt, grease, and waste material from machines. Paints machines or equipment to prevent corrosion.

Specific Skills

1. Tools
    a. Identifying and caring for common hand tools.
    b. Caring for tool panel.
    c. Caring for power tools.
    d. Caring for shop floor.
2. Concrete and Mortar
    a. Repairing cracks.
    b. Replacing section of sidewalk.
    c. Pointing up mortar joints.
3. Doors
    a. Tightening hinges.
    b. Lubricating hinges.
    c. Reinforcing doors.
    d. Replacing door closure.
4. Electrical
    a. Replacing plugs.
    b. Replacing fuses.
    c. Replacing lamp cords.
    d. Replacing switches.
    e. Replacing outlets.
    f. Making pigtail splices.
    g. Using screw connectors.
    h. Tieing underwriters knots.
    i. Replacing pushbuttons.
5. Appliances
    a. Cleaning exteriors.
    b. Oiling motors.
    c. Adjusting pilot lights.

6. Floors
   a. Reinforcing weak spots.
   b. Repairing squeaks.
   c. Installing tiles.
7. Hardware Trouble
   a. Replacing locks.
   b. Lubricating hardware.
   c. Replacing door catches.
   d. Replacing door or drawer pulls.
8. Insulation
   a. Insulating roofs.
   b. Nailing fire stops.
   c. Calking around doors and windows.
   d. Weatherstripping windows.
   e. Weatherstripping doors.
   f. Applying insulation to hot water pipes.
9. Paints and Painting
   a. Mixing paint.
   b. Painting outside of buildings.
   c. Painting furniture.
   d. Painting ceilings.
   e. Painting walls.
   f. Painting floors.
10. Plumbing
   a. Replacing washers in faucets.
   b. Replacing paking in faucets.
   c. Replacing faucet seats.
   d. Replacing section of pipes.
   e. Cutting pipe threads.

f. Cutting copper tubing.

g. Soldering copper tubing.

h. Removing and cleaning traps.

i. Using rubber force cups.

j. Using chemical drain cleaner.

k. Using cleanout auger.

l. Replacing toilet flush box ball floats.

m. Replacing toilet valve rubber balls.

n. Draining hot water tanks.

o. Cleaning burner of gas hot water tanks.

11. Roofs

a. Locating and repairing leak in roof.

b. Repairing flashing.

c. Repairing leak in gutters.

d. Replacing section of gutters.

12. Sinks, Counter and Table Tops

a. Replacing sink tops.

b. Covering table tops.

c. Resurfacing counter tops.

13. Storm Windows and Screens

a. Removing storm windows.

b. Repairing screen of storm window frames.

c. Patching screens.

d. Replacing screens.

e. Painting screens.

f. Lubricating aluminum storm screen windows.

14. Walls and Ceiling

a. Patching plaster walls.

b. Patching dry walls.

    c. Resurfacing walls.
    d. Removing old wallpaper.
    e. Patching wallpaper.
    f. Papering walls.

15. Windows
    a. Opening sticking windows.
    b. Replacing broken sash cords.
    c. Lubricating aluminum sashes.
    d. Polishing aluminum sashes.
    e. Replacing pane of glass.
    f. Reputtying window panes.
    g. Lubricating weatherstrips.

Possible Job Placements

1. Bilco Manufacturing Company
   3355 Brookdale Avenue
   743-1421
2. Medical Center of Central Georgia
   777 Hemlock Street
   744-1000

Instructional Startegies

14. Identifying and caring for common hand tools.

Instructional Objective. Given a tool panel with common hand tools, the student will identify and place the tools in the correct spot on the panel, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. S will look at tool panel.
2. S will reach for tool on bench.
3. S will identify tool and wipe tool with oily rag.
4. S will hang tool in correct place on panel.

Teaching Procedures

1. T will take S's hand and place on tool and guide the tool to the correct position. T will also name tool.
2. T will also give verbal cues.
3. T will demonstrate how to wipe tools with oily rag.
4. T will ask S to pick up and name tools, wipe with oily rag, and replace them on tool panel.
5. T will reward with praise.

2a. Repairing cracks in concrete and mortar.

Instructional Objective. Given the tools and materials, the student will repair a crack in concrete, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. S will look at crack in concrete floor.
2. S will enlarge crack to about ½ inch wide and 1 inch deep by chipping the old cement away with a cold chisel or "star" drill and a hammer.
3. S will, when possible, slightly undercut edge to form "key" to hold new concrete in place.
4. S will brush out all loose dirt in crack.
5. S will mix concrete or use ready mixed portland cement.
6. S will moisten the edge of the old concrete.
7. S will fill crack with concrete and smooth it down.
8. S will cover repaired crack with damp burlap for several days.

Teaching Procedures

1. T will locate crack in floor to be patched.
2. T will demonstrate how to enlarge crack with cold chisel.
3. T will say, "Undercut edge to form key."
4. T will say, "Clean out loose dirt," in crack with brush.
5. T will demonstrate how to mix concrete.
6. T will say, "Moisten edge," of the old concrete.
7. T will take S's hand with trowel and apply concrete in crack: putting right amount of pressure on new concrete to smooth it down.
8. T will demonstrate on how to place damp burlap on crack.

7a. Replacing locks.

Instructional Objective. Given a door with a faulty lock, the student will replace the lock, following the steps in the task analysis with 100% accuracy.

Task Analysis.

1. S will look at lock to be removed and new one to be installed.
2. S will remove knobs and side plates.
3. S will remove cylinder.
4. S will remove bolt.
5. S will instaff new bolt.
6. S will instaff new cylinder.
7. S will instaff new side plates and knobs.
8. S will align new lock to striker plates.
9. S will lubricate lock with powdered graphite.

14a. Patching a plaster wall.

Instructional Objective. Given the tools and the plaster mixture, the student will patch a crack in a plaster wall, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. S will look at crack in plaster wall.
2. S will cut away the loose plaster around the edge with a knife.
3. S will undercut around the edge of the old plaster so that it will hold the new plaster in place.
4. S will enlarge the hole to eliminate all cracks leading from the hole.
5. S will use old newspaper to provide anchor for the plaster.
6. S will moisten the edge of old plaster.
7. S will fill hole with 4 inch flexible knife to about ½ full (very firm) in order to form a key.
8. S will dampen hole and fill.
9. S will sand flush with old plaster after new plaster has dried.

Teaching Procedures

1. T will identify cracks in plaster wall.
2. T gives S knife and says, "Cut out all loose plaster."
3. Reinforce with praise and instructions as appropriate.
4. T says, "Now undercut old plaster edges so that new plaster will have something to hold to."
5. T instructs S, "Now push in old newspaper in hole for an anchor."
6. T instructs S in use of plaster patch.
7. T says to S, "Now moisten the edge with brush."
8. Reinforces with praise and guidance when appropriate.

9. T instructs S, "Now with 4 inch flex knife fill hole ¼ full (very firm) to form key.
10. After drying, repeat steps 7-9.
11. After drying second time, T instructs S in sanding new plaster flush with old wall.

15b. Replacing broken sash cord.

Instructional Objective. Given a window with a broken sash cord, the student will replace it following the steps in the task analysis, with 100% accuracy.

Task Analysis.

1. S will look at window with broken sash cord.
2. S will remove inside stop from one side of the window.
3. S will raise the sash and remove the small door to the weight pocket.
4. S will reach into the weight pocket and lift out the weight.
5. S will replace broken sash cord with a new one.
6. S will replace weight in pocket.
7. S will replace window and stop.

Cabinetmaker Helper

Job Description

Assists cabinetmaker in setting up and operating a variety of woodworking machines and uses various handtools to fabricate and repair wooden cabinets and high-grade furniture: Studies blueprints or drawings of articles to be constructed or repaired, and plans sequence of cutting or shaping operations to be performed. Marks outline or dimensions of parts on paper or lumber stock, according to blueprint or drawing specifications. Matches materials for color, grain, or texture. Sets up and operates woodworking machines, such as power saws, jointer, mortiser, tenoner, molder, and shaper, to cut and shape parts from woodstock. Trims component parts of joints to insure snug fit, using handtools, such as planes, chisels, or wood files. Bores holes for insertion of screws or dowels by hand or using boring machine. Glues, fits, and clamps parts and subassemblies together to form complete unit, using clamps or clamping machine. Drives nails or other fasteners into joints at designated places to reinforce joints. Sands and scrapes surfaces and joints of articles to prepare articles for finishing. May repair high-grade articles of furniture. May dip, brush, or spray assemblied articles with protective or decorative materials, such as stain, varnish, or paint. May install hardware, such as hinges, catches, and drawer pulls.

Specific Skills

1. Planning and Laying Out
    a. Measuring with a rule.
    b. Marking with a pencil or awl.
    c. Measuring with a rule or tape.
    d. Measuring with a roll-matic.
    e. Laying out duplicate parts.

2. **Sawing**
    - a. Crosscutting with different guides with hand saw.
    - b. Crosscutting with circle saw.
    - c. Ripping with circle saw.
    - d. Cutting curves on band saw with special guard.
    - e. Cutting curves on jig saw with special guards.
3. Hand Planing
    - a. Planning a surface.
    - b. Planning an edge.
    - c. Planning end grain.
    - d. Planning bevel.
    - e. Adjusting plane.
    - f. Sharpening plane iron blade.
4. Using Wood Fastenings
    - a. Nails.
    - b. Screws.
    - c. Staples.
5. Wood Finishing
    - a. Sanding and preparing surface.
    - b. Staining.
    - c. Applying finish.
    - d. Rubbing down finishes.
6. Using the Jointer
    - a. Adjusting the table and fence.
    - b. Using the guard.
    - c. Jointing the edge.
    - d. Beveling.

7. Using the Table Saw
    a. Adjusting machine.
    b. Adjusting and using guard.
    c. Ripping and crosscutting.
    d. Dadoing
    e. Rabbeting
8. Using Band Saw
    a. Adjusting machine.
    b. Cutting curves.
    c. Crosscutting.
9. Using Jig Saw
    a. Adjusting machine.
    b. Cutting curves.
10. Using the Drill Press
    a. Adjusting machine.
    b. Drilling a hole.
    c. Drilling a stop hole.
    d. Drilling a hole for screws.
11. Using Wood Lathe
    a. Centering mounting stock.
    b. Turning cylinder.
    c. Chucking.
12. Using Radial-Arm Saw
    a. Cutting stock to length.
    b. Adjusting machine.
13. Using Planer
    a. Adjusting machine.
    b. Surfacing stock.

Possible Job Placements

1. McDaniel's Cabinet Shop

   Grace Road

   781-8460

2. Middlebrook Cabinet Shop

   7385 Industrial Hwy.

   781-9819

Instructional Strategies

1a. Measuring with a rule.

Instructional Objective. Given a piece of wood and a rule, the student will measure the wood to within 1/16 of an inch on 3 consecutive days.

Task Analysis.

1. S will take a piece of wood.
2. S will unfold rule.
3. S will use rule to measure specified length on board.

Teaching Procedure

1. T will say, "Get a piece of pine wood 12" X 96".
2. T will say, "Unfold rule."
3. T will say, "Measure from left end to 24 3/4"."
4. T will say, "Mark at 24 3/4" with pencil."

1b. Marking with a pencil or awl.

Instructional Objective. Given a measured piece of wood, the student will use a square and make a pencil line 90° from the front edge of the wooden board, with 100% accuracy on 3 consecutive days.

Task Analysis.

1. S will take square and place it 90° from edge of board on dot or mark made for correct length.
2. S will take pencil and mark line along side of square blade.

7a. Adjusting a table saw.

Instructional Objective. Given a job for the rip saw, the student will adjust the height of saw for stock and set rip fence the correct distance from the blade, with 100% accuracy.

Task Analysis.

1. S will take a piece of stock and place it by the blade.
2. S will raise saw blade to 1/8" above stock by turning saw raising handwheel.

Teaching Procedures

1. T will say, "Place a piece of stock by the saw blade."
2. T will say, "Raise blade by turning the saw raising hand wheel to right until it is approximately 1/8" above the stock.

7b. Adjusting and using guard on table saw.

Instructional Objective. Given a job on the rip saw, the student will adjust the guard for correct safety procedure and cut the wood, with 100% accuracy.

Task Analysis.

1. S will remove the throat plate from the saw blade.
2. S will install guard behind and above saw blade.
3. S will replace saw throat plate and then procede with ripping job.

13a. Adjusting planes.

Instructional Objective. Given a job for the planer, the student will adjust the planer to 1/16 of an inch to the stock's rough thickness, 3 out of 3 times.

Task Analysis.

1. S will measure thickness of stock to be planed.
2. S will set planer 1/16" less than the thickness of stock.

Teaching Procedures.

1. T will say, "Measure thickness of stock to be planed."
2. T will say, "Set table by turning elevating handwheel to 1/16" of the stock's thickness."
3. T will say, "And after each pass through the planer you re-adjust 1/16" until you achieve the desired thickness.

13b. Surfacing stock.

Instructional Objective. Given a piece of stock to surface, the student will run stock through the machine by removing 1/16" of excess stock as many times as needed for specified thickness, with 100% accuracy.

Task Analysis.

1. S will set machine to 1/16" of rough stock thickness.
2. S will start machine.
3. S will grasp stock firmly and feed stock into front roller of machine.
4. S will take stock from back table after it runs through the machine.
5. Re-adjust 1/16" and run through as many times as needed to achieve specified thickness

Furniture Refinisher

Job Description

Finishes or refinishes damaged, worn, or used furniture or new high-grade furniture to specified color or finish, utilizing knowledge of wood properties, finishes, and furniture styling: Disassembles article, masks areas adjacent to areas being finished, or removes accessories such as knobs and hinges, using handtools, to prepare article for finishing. Removes old finish from surfaces, using steel wool, sandpaper, or solvent and putty knife. Removes excess solvent with cloth immersed in paint thinner or sal soda. Applies plastic-putty, wood putty, or lacquer stick to surface, using spatula or knife, to fill nicks, depressions, holes, and cracks. Smooths surface for finishing, using snadpaper or power sander. Selects finish ingredients and mixes them by hand or machine to obtain specified color or shade or to match existing finish. Brushes or sprays successive coats of stain, varnish, shellac, lacquer, or paint on workpiece. Grains wood or paints wood trim, using graining roller, comb, sponge, or brush. Polishes and waxes finished surfaces. May restore wood to natural color, using bleaching acid and neutralizer. May spread graining ink over metal portions of surfaces with cheesecloth to simulate wood-grainlike finish.

Specific Skills

1. Removing old finish from a smooth surface.
2. Removing old finish from a carved surface.
3. Applying wood filler on open-grain wood.
4. Applying wood filler on close-grain wood.
5. Applying oil stain.
6. Applying water stain.
7. Applying shellac.
8. Applying varnish.
9. Applying lacquer.

10. Applying enamel.
11. Applying paint.

Possible Job Placements

1. West Macon Upholstery Shop
   2732 Montpelier Avenue
   745-6678
2. Paul Duval & Son Upholstery
   1515 Pio Nono Ave.
   743-0131

Instructional Strategies

1. Removing old finish from a smooth surface.

Instructional Objective. Given a board with old finish, the student will remove 100% of the finish on two consecutive trials.

Task Analysis.

1. S will pick up a sheet of coarse sandpaper.
2. S will place sandpaper on the board with the granite side next to the side of the board where the finish is to be removed.
3. S will place a small block of wood on top of the sandpaper and will fold the paper around it.
4. S will grasp the sandpaper and the block of wood with fingers and will move them back and forth with the grain of the wood until the finish is removed.
5. S will pick up a sheet of medium sandpaper and will repeat steps 2 and 3 above.
6. S will grasp the sandpaper and block of wood with fingers and move them back and forth with the grain of the board until it becomes fairly smooth.
7. S will get a sheet of fine sandpaper and repeat steps 2 and 3 above until the surface is 100% smooth.

Teaching Procedures.

1. T will place all necessary materials on a work bench.
2. T will place a piece of coarse, medium and fine sandpaper in S's hand.
3. T will help the S to determine the difference in the grains of the three types of sandpaper.
4. T will place the board to be finished in S's hand.
5. T will instruct S to scratch the board surface on the edges with a fingernail.

6. T demonstrates to S that the edges have a grain.
7. T demonstrates to S the proper procedure to sand the board with the grain.
8. T instructs S that the sandpaper is to be used in order from coarse to medium to fine.
9. T wraps a piece of coarse sandpaper around a block of wood.
10. T demonstrates the proper procedure to sand the board until the finish is removed.
11. T will have S place hands on the instructor's hands during the process.
12. T will continue the procedure with a piece of medium sandpaper.
13. T will continue the procedure with a piece of fine sandpaper until the board is completely finished.
14. T will discuss the procedure with the S.
15. T will reinforce S.

2. Removing old finish from a carved surface.

Instructional Objective. Given a board with carving on the surface, finish remover and a brush, the student will remove 100% of the old finish.

Task Analysis.

1. S will examine the board to determine the direction that the grains run.
2. S will pick up the container with the remover in it.
3. S will read instructions on the container.
4. S will brush on paint remover and wait until the recommended time has elapsed.
5. S will remove the paint remover.
6. S will pick up wire brush to brush out all the finish in the carving.
7. S will place board in designated area for drying.
8. S will take dried board and lightly sand with medium sandpaper.
9. S will sand with fine sandpaper.
10. S will use the air hose to remove dust and other particles.

7. Applying shellac.

Instructional Objective. Given a sanded smooth board, 1½" to 3" brush, a lint-free cloth, alcohol, and fine steel wool, the student will apply shellac with no streaks or runs.

Task Analysis.

1. S will place sanded board on a piece of scrape wood.
2. S will get a glass container and put some alcohol in it.
3. S will pick up lint-free cloth and dip it into the alcohol.
4. S will wipe the board surface clean.
5. S will pick up a clean brush 1½" to 3" wide with the bristles set in wood.
6. S will dip one-third of the length of the board into the shellac and wipe the sides of the brush on the container.
7. S will begin at the center of a flat surface or near the top of a vertical surface to work toward the edge.
8. S will work quickly and evenly with light, long brush strokes.
9. S will soak the brush in pure alcohol.
10. S will allow the board to dry from two to four hours.
11. S will use steel wool on the surface, rubbing with the grain.
12. S will apply several coats of shellac, using steel wool between each coat.

Teaching Procedures.

1. T will demonstrate to S how to examine the board for smoothness to determine if it is ready for shellac.
2. T will demonstrate to S how to pour an equal amount of shellac and alcohol into a glass container and mix it.
3. T will demonstrate to S how to wet the lint-free cloth in alcohol to wipe the board free of dust.

4. T will demonstrate to S how to dip brush, one-third of the way into the shellac and wipe the brush on the side of the container to prevent dripping.
5. T will demonstrate to S how to work from the center of the board to the edges with even, light strokes.
6. T instructs the S not to touch the board for two to four hours in order that it may dry.
7. T demonstrates to S how to steel wool the board.
8. T demonstrates to S the correct procedure to apply a second coat of shellac, adding 40% of alcohol to the shellac.
9. T demonstrates to S the proper procedure to apply a third coat of shellac, adding about 25% of alcohol to the shellac.
10. T demonstrates to S the proper procedure to apply the varnish.
11. T discusses the process with S.
12. T reinforces S.

8. Applying varnish.

Instructional Objective. Given a dust-free room with a temperature between 70° and 80°, a brush 2" to 3" wide with long bristles, a clean cloth, turpentine, a sanded board and a can of quick drying varnish, the student will varnish a board with 100% accuracy during four consecutive trials.

Task Analysis.

1. S will examine materials on the work table.
2. S will locate the board to be varnished.
3. S will place board on scrapborads.
4. S will dip cloth in benzine and wipe the surface clean.
5. S will open a can of quick drying varnish.
6. S will pour some into a glass container and add 25% turpentine.
7. S will pick up the brush and dip the bristles one-third into the varnish.
8. S will apply the varnish with long and easy strokes, first with the grains and then across the grains.
9. S will brush out the varnish with the grain, using only the tip of the brush.
10. S will dip the brush immediately in a can of turpentine.
11. S will cover the varnish left in the can to keep scum from forming.
12. S will let the varnish dry about 12 to 24 hours, or until all "tackness" has gone.
13. S will use the varnish in its regular consistency for the second and third coat.
14. S will observe the same brushing techniques as for the first coat.

15. S will apply a good paste wax and polish with a clean piece of cheesecloth after the varnish is thoroughly dried.

10. Applying enamel.

Instructional Objective. Given a sanded board, shellac, enamel undercoat, a 2" to 3" brush and no. 210 sandpaper, the student will apply an enamel finish to the board with 100% accuracy for two consecutive trials.

Task Analysis.

1. S will cover all knots and sap streaks with a coat of thin shellac.
2. S will select a can of enamel undercoat and mix it thoroughly.
3. S will use a 2" to 3" brush and apply the undercoat in a manner similar to that used to apply varnish.
4. S will sand lightly with a no. 210 sandpaper after the surface has thoroughly dried.
5. S will apply a second undercoat.
6. S will select quick-drying finish enamel of desired color and apply one or two coats of this enamel in the same manner as the undercoat.
7. S will allow the final coat to dry for a day or two.
8. S will rub down the surface with pumice stone water if a dull finish is desired.

Teaching Procedures.

1. T will provide S with a board that is ready for an enamel finish.
2. T expalins to S that enamel is a colored varnish.
3. T explains to S why the primer coat must be opaque in order to be suitable for use with the enamel.
4. T will demonstrate how to mix the undercoat thoroughly.
5. T will describe the appropriate brush (2" to 3").
6. T will demonstrate how to cover all knots and sap streaks with a thin coat of shellac.

7. T demonstrates how to apply the undercoat in a similar manner as that used to apply varnish.
8. T explains the importance of allowing the first coat to dry thoroughly.
9. T demonstrates how to sand the board lightly with no. 210 sandpaper.
10. T demonstrates how to apply a second undercoat.
11. T describes the properties of the quick-drying finish enamel.
12. T will demonstrate how to apply a coat of enamel in the same manner as the undercoat was applied.
13. T will demonstrate the use of pumice stone and water to create a dull finish after the enamel has thoroughly dried.
14. T will discuss the process with S.
15. T will reinforce S.

11. Applying paint.

Instructional Objective. Given a sanded board, primer paint, shellac, brush, no. 0 sandpaper and turpentine, the student will paint a board with 100% accuracy on two consecutive trials.

Task Analysis.

1. S will check materials.
2. S will place project to be painted on scrapwood.
3. S will apply a thin coat of shellac to wood.
4. S will open the can of primer and pour off the light liquid on top into a second container.
5. S will stir the primer and gradually add the liquid until it is mixed.
6. S will add turpentine to the primer to thin it.
7. S will use a good brush of the correct size to apply a thin coat of primer.
8. S will allow the paint to dry from 12 to 24 hours.
9. S will go over the surface with no. 1 sandpaper.
10. S will then apply the undercoat.
11. S will go over the surface thoroughly.
12. S will apply the final coat in the same consistency as it comes from the can.
13. S will thoroughly brush on the paint, making sure that a smooth, even coat is applied.

Small Engine Mechanic

Job Description

Repairs fractional-horsepower gasoline engines used to power lawnmowers, garden tractors, and similar machines, using handtools: Locates causes of trouble, dismantles engines, using handtools, and examines parts for defects. Replaces or repairs parts, such as rings and bearings, using handtools. Cleans and adjusts carburetor and magneto. Starts repaired engines and listens to sounds to test performance. Replaces engines on machines.

Specific Skills

1. Disassembling a two-cycle, one-cylinder engine.
2. Assembling a two-cycle, one-cylinder engine.
3. Disassembling a two-cycle, two-cylinder engine.
4. Disassembling the lower unit of an outboard marine engine.
5. Assembling the lower unit of an outboard marine engine.
6. Disassembling a Briggs and Stratton four-cycle engine.
7. Cleaning and inspecting parts of the engine.
8. Assembling a Briggs and Stratton engine.
9. Disassembling a Honda 50/90 cycle.
10. Cleaning and inspecting parts of a Honda 50/90 cycle.
11. Assembling a Honda 50/90 cycle.
12. Disassembling a four-cycle, two-cylinder engine.
13. Inspecting parts of a four-cycle, two-cylinder engine.
14. Making mechanical adjustments to a four-cycle, two-cylinder engine.

Possible Job Placements

1. Blalock and Son

   3148 Houston Avenue

   781-6222

2. Payne City Lawn Mower Shop

   3397 Roff Avenue

   745-4196

Instructional Strategies

1. Disassembling a two-cycle, one-cylinder engine.

Instructional Objective. Given a two-cycle, one-cylinder engine, the student will completely disassemble the engine in 75 minutes.

Task Analysis.

1. S will detach side panels and side boards.
2. S will remove spark plug and high voltage cable.
3. S will remove the cylinder head.
4. S will remove the magneto.
5. S will remove the crankshaft lock nut.
6. S will pull the flywheel.
7. S will remove the kick starter case.
8. S will remove the clutch.
9. S will remove the clutch disc.
10. S will remove the clutch drum.
11. S will unscrew the bell locking nut.
12. S will remove the bell from clutch control gear.
13. S will remove the piston.
14. S will remove the crankshaft.

Teaching Procedures for Step 1 of TA.

1. T supplies S with a tool kit and engine to be disassembled.
2. T and S check tool kit, naming all the tools.
3. T tells S that he/she is responsible for all of the tools in the tool kit.
4. T shows S the engine to be disassembled.
5. T tells S that with T's help he/she will remove the side panels and side boards.
6. T points to side panels and explains that they are used to help keep the engine cool when it is running.

7. T tells the S that each side panel is fastened to the engine with three screws (show locations).
8. T tells S how to remove the screws by using a phillips screwdriver.
9. T has S remove side panels and place them and the screws in a container.
10. T shows S the side boards and explains that they are used to rest the rider's feet.
11. T directs the S to slide his/her hand along the inside of the side boards to locate the two screws that fasten it to the frame.
12. T has S remove the screws with a phillips screwdriver and place side boards and screws in a container.
13. T will reinforce with praise or tangibles as appropriate.

2. Assembling a two-cycle, one-cylinder engine.

Instructional Objective. Given all of the parts to a two-cycle, one-cylinder engine, the student will assemble the engine in 90 minutes.

Task Analysis.

1. S will install piston.
2. S will install the bell and clutch control gear.
3. S will install the bell locking nut.
4. S will assemble clutch drum and disc.
5. S will install the clutch.
6. S will install the kick starter case.
7. S will install the flywheel.
8. S will install the crankshaft lock nut.
9. S will install the magneto.
10. S will install the cylinder head.
11. S will install sperk plug and high voltage wire.
12. S will install side panels and side boards.

4. Disassembling the lower unit of an outboard marine engine.

Instructional Objective. Given an outboard marine engine, the student will remove the lower unit following the steps in the task analysis in 75 minutes.

Task Analysis.

1. S will remove the retainer and the propeller.
2. S will remove the top and bottom oil plugs to drain oil.
3. S will remove the cover plate and take out the bottom shalf connector screw.
4. S will remove the four screws holding the gear case to the exhaust housing.
5. S will remove the bolt holding the exhaust housing to the gear case.
6. S will pull the gear case, water pump assembly, and the water tube from the exhaust housing.
7. S will remove the pump housing screws.
8. S will lift the pump housing, impeller plate, and drive shaft from the gear case.
9. S will remove the screws holding the skeg to the gear case.
10. S will remove the pivot screw with a phillips screwdriver.
11. S will remove the skeg from the gear case housing.
12. S will remove the propeller shaft forward and reverse gear. assembly.
13. S will remove the pinion gear.

7. Cleaning and inspecting parts of the engine.

Instructional Objective. Given a disassembled engine, the student will clean and inspect the parts in 30 minutes.

Task Analysis.

1. S will clean all parts with solvent and blow dry.
2. S will inspect the cylinder for cracks, stripped threads, broken fins or scored walls.
3. S will check the size of bore.
4. S will check the piston for side play.
5. S will check the crank pin bearing for scores.
6. S will check rings end play.
7. S will inspect the starter clutch assembly.

8. Assembling a Briggs and Stratton engine.

Instructional Objective. Given the parts of a Briggs and Stratton engine, the student will correctly assemble the engine in 2 hours.

Task Analysis.

1. S will grind and clean valves.
2. S will install the valve springs and retainer and insert the valve.
3. S will install a compressor over the piston and ring assembly.
4. S will install the piston and rod assembly into the cylinder.
5. S will lubricate and install the bearing cap, and both lubricated tappets.
6. S will install the camshaft assembly.
7. S will install the oil pump.
8. S will check the valve timing.
9. S will position the crankcase cover over the crankshaft journal and ease the lip of the seal over the journal.
10. S will check the end play of the crankshaft.
11. S will install the cylinder head.
12. S will replace the intake port cover, valve chamber, breather-cover, and the cylinder shiel.
13. S will insert the breaker point actuating plunger.
14. S will replace the condenser, movable contact point assembly, and magneto assembly.
15. S will adjust the point gap.
16. S will hook up the primary shorting wire to the control support shorting switch.
17. S will install the control support and governor spring-and-link assembly.
18. S will install the muffler.

19. S will install the flywheel.

20. S will install the starter clutch assembly.

21. S will install the magneto.

22. S will clean all parts of carburetor.

23. S will assemble, install, and adjust the carburetor.

24. S will clean, set the gap, and install the spark plug.

25. S will clean the air filter and install it on the carburetor.

Teaching Procedures for Steps 1, 2, and 3 of TA.

1. T will take S's hand and point out the parts of the valve.

2. T will show S the valve seat.

3. T will show S the difference between a good valve and a bad one.

4. T will explain the effect of a good valve and a bad valve on the machine.

5. T will demonstrate the proper way to grind the valve or reset the valve.

6. T will discuss the procedure with S.

7. T will make certain that S is familiar with appropriate tools.

8. T will demonstrate the proper procedure to clean and lightly oil the valve face and stem.

9. T will spot check the S periodically during the demonstration to make certain that the procedure is understood.

10. T will reinforce S.

11. T will instruct S to inspect the valve spring compressor.

12. T will demonstrate the proper procedure to insert the valve spring compressor.

13. T will elicit help from S for this procedure.

14. T will reinforce S.

ANNOTATED BIBLIOGRAPHY ON VOCATIONAL TRAINING FOR VISUALLY IMPAIRED PERSONS

Bauman, M. K. An Interest Inventory for the Visually Handicapped. *Education of the Visually Handicapped*, 1973, *5*, pp. 78-83.

The author reports on an interest inventory developed especially for blind and visually impaired students, based on occupations successfully held by blind persons. The inventory described has 150 items in ten designated areas. Reliability levels are .84 or higher for all ten areas tested. Validity was not established at the time of the article, but validity studies were started.

Bauman, M. K. Foundations for Vocational Choices in Grades 1-9. *Education of the Visually Handicapped*, 1971, *3*, pp. 40-45.

This article reported the amount of vocational programming available below the high school level in a survey of residential and day schools for the blind. From the data of the survey, the author has outlined some prevocational activities, materials, and techniques including a description of the Tennessee School for the Blind's Curriculum Guide for Social Studies.

Carr, L. K., Zemalis, C., & Evans, W. J. *Pre-Career Curriculum Guide for Deaf-Blind, Parts I, II and III*. Sacramento, CA: Southwestern Deaf-Blind Center, 1974.

This task-analyzed curriculum includes a definition of terms, assessment instrument, programs for personal hygiene, social skills, etc. Each activity in the curriculum indicates the objective, procedures and evaluation criteria. Part III covers programs designed to prepare children for employment and includes sorting skills, sewing, etc. Guidelines on the safety of activities, availability of material, and capabilities of the child to accomplish the task are included.

Carroll, L. R., & LaBarve, A. H. A Cooperative Vocational Guidance Course for visually impaired students-client. *The New Outlook for the Blind*, 1974, *68*, pp. 163-169.

The article describes a senior year course on adjusting to job situations. The course covers grooming, eating skills (use of restaurant), job application, vocational exploration and field trips.

Clayton, I. P. Career Opportunities for Visually Impaired Persons in Maryland. *The New Outlook for the Blind*, 1973, *67*, pp. 210-215.

The article relates the results of a survey of employers in Maryland and former students of the state school for the blind to determine needed improvements in the school's career program. A pilot program was started based on the data of the survey. Clayton reports on reasons given by employers not completing the survey which provides good clues to areas of employer-client relations needing improvement. List of activities to increase awareness of employers to hire blind adults is provided along with a section on redesigning jobs.

Coker, D. G. The Development of a Vocational Program in a Residential School for the Visually Handicapped. *The New Outlook for the Blind*, 1974, *68*. pp. 25-28.

Coker reviews the scope of vocational programs at a state school for the blind, which has a population of low academic achievers. In addition to technical training, the article emphasizes the need for work experience programs. The article also covers the use of job availability studies, the role of job supervision and the importance of evaluation.

Colombo, D. R. Involving the Visually Impaired in Your Electronics Program. *School Shop*, 1979, *1*, pp. 36-37.

Colombo describes devices, materials, etc., which can be purchased to assist visually impaired students in learning electronics.

Critical Issues in Rehabilitating the Severely Handicapped. *Rehabilitation Counseling Bulletin*, 1975, *18*, pp. 205-213.

This is a report of the Institute on Rehabilitation Issues which centers on the severely handicapped due to their priority service set forth in the Rehabilitation Act of 1973. The report defines and explains twelve issues related to the service of severely handicapped clients (i.e. open-ended cases vs. closed cases, quota systems for promotion of VR counselors, evaluation techniques and role of research).

The Current Status of Prevocational Services for the Deaf-Blind Through the Regional Center Program. Austin, Texas: Management Services Associates, 1976.

This is the final report on the activities of ten grants awarded for the development of prevocational/vocational services to deaf/blind clients. The report provides a discussion of the following areas: awareness of prevocational/vocational needs; service delivery systems; program management/coordination; barriers to service; weaknesses in existing services.

Davidson, T. M. The Vocational Development and Success of Visually Impaired Adolescents. *The New Outlook for the Blind*, 1975, *69*, pp. 314-316.

Davidson reports on testing which indicates that the high rate of employment and low salaries of the blind are not related to vocational immaturity. The author considers employment problems to be associated with societal stigma toward blindness. Action steps are reviewed for both better public relations and for changing and increasing training opportunities for the blind.

Design Conference Report, Prevocational Training Programs for Deaf-Blind Children. Madison, Wisconsin: Opinion Research Associates, Inc., 1974.

This report identifies three categories of factors, which should be taken into consideration for the design and evaluation of prevocational training. The three categories are characteristics of deaf/blind individuals, skills which are to be acquired, types of components which a good treatment program must have.

Dickson, M. B. Summer Work Experience Program for Young Blind People. *Journal of Visual Impairment and Blindness*, 1978, *72*, pp. 147-150.

A ten-week program of summer work which emphasizes job seeking skills, placement, money management is explained. The program attempts to provide practical experiences to increase decision-making skills and establish vocational interests. Description of the types of jobs acquired are reviewed.

Employment Counseling. In: Routh, T. A. *Rehabilitation Counseling of the Blind*, Springfield, Illinois: Charles C. Thomas, 1970.

This chapter consists of general comments on counseling the blind for successful employment. An outline of basic factors in vocational diagnosis and job analysis is used to summarize the chapter. The outline covers health/physical status, intelligence, education, vocational interests, employment experiences, personal adjustment, mental attitude and test results.

Finkle, L. J. A Work-Study Program for Residential Schools for the Blind. *Education of the Visually Handicapped*, 1971, *3*, pp. 52-54.

Finkle reviews reasons for and considerations made in the development of a work-study program (funding, assessment, job sites, etc.). The phases of the program are explained, including the types of employment selected for the program.

A Handicapped Student Needs Assessment. Austin, Texas: Texas Education Agency, 1977.

The results of a 1977 statewide assessment of the career education performance of 1078 handicapped secondary students are given in this report. The part of the data presented is for visually handicapped students with areas ranked from highest to lowest as compared to non-handicapped students. Some of the areas assessed included goal setting, decision making, career information and job interview skills.

Huber, D. J. Learn to Earn: A School Work-Experience Program. *The New Outlook for the Blind*, 1973, *67*, pp. 219-220.

The program described by Huber is a part-time work experience program. The program is conducted only when subcontractions are available which is usually for three hours a day three times a week. Only candidates with work potential, which is not defined in the article, are included in the program.

Karan, O. C. Graduated Habilitation Programming for the Severely Developmental Disabled. *Rehabilitation Literature*, 1977, *38*, pp. 322-327.

Karan describes the Crisis Intervention Center which attempts to prepare clients, who in the past had been denied service because of a lack of vocational potential, to meet criteria for vocational rehabilitation. The center consists of three satelite projects which provide for movement toward competitive employment through prevocational training and an extended evaluation program.

Klinkhamer, G. E. The Implications of Career Education of a Visually Handicapped Student. The New Outlook for the Blind, 1973, 67, pp. 207-215.

This discussion on career education centers around the need to develop independent skills in eating, dressing, etc. Vocational education is viewed only as a part of a toal career education program. Mr. Klinkhamer stresses the need for career experiences throughout the school years.

Laurence, M. The Self-Reliance Institute: Filling the Gap in Work-Experience. The New Outlook for the Blind, 1973, 67, pp. 221-225.

The Self-Reliance Institute is an intense five-week workshop for the visually handicapped and is on the world of work, based on the premise that blind students are underachievers. The workshop consists of one week of coursework and four weeks of on-the-job training, which includes one hour a day of daily living instruction. The effectiveness and/or success of the workshop was unclear at the time of the article.

Leach, R. H. Community Work Experience as Part of Adjustment Training for Blind Persons. The New Outlook for the Blind, 1976, 70, pp. 157-159.

In this report, case histories are used to explain and describe a work experience program which the author feels is more realistic than a sheltered training program. Leach lists six recommendations for the implementation of a work experience program.

Link, H. J. Placement and Employment of the Visually Impaired: State of the Art and Identification of unmet needs. The New Outlook for the Blind, 1975, 69, pp. 320-324.

This is a review of legislation from 1935 to the time of the article that was useful in removing obstacles to employment of the visually handicapped. Link reports on the results of two surveys conducted by the American Foundation for the Blind which identified special problems on barriers encountered in the training, placement and employment of visually handicapped persons. The surveys also outlined unmet needs in these areas.

Mithaug, D. E., Hagmeier, L. D., & Haring, N. B. The Relationship Between Training Activities and Job Placement in Vocational Education of the Severely and Profoundly Handicapped. AAESPH Review, 1977, 2, pp. 25-45.

Discussion in this article centers on relating vocational activities to the requirements of actual job placement opportunities. The authors have included a survey instrument which can be used to determine the requisite job skills needed for different job sites.

Rossi, C., Jr., & Marotta, M. Breaking Blind Stereotypes. The New Outlook for the Blind, 1974, 68, pp. 29-32.

The role of the blind person is limited by the stereotypes placed on that person by society. This article reviews the need to break the stereotypes by integrating blind students into new job areas, which might be considered non-typical for the blind. This integration will, hopefully, lead to new perceptions of a blind person's ability.

Ruffino, C. R., & Canterbury, C. E. The Visually Handicapped in the Environment. School Shop, 1978, 37, pp. 70-77.

The article describes adaptive devices, instructional techniques, safe equipment operations, etc., for incorporating blind students into an industrial arts program. Aids and adaptations which can be made instead of purchased are also briefly covered.

Russell, G. H., & Butler, D. M. The Five-County Vocational Skills Training Program, 1970-72. The New Outlook for the Blind, 1973. 67, pp. 301-308.

After reviewing the historical basis for the modern trend toward integrating visually handicapped students into vocational skills training programs in the public schools, the authors describe a three-year program in California in which a skills specialist experienced in teaching visually handicapped students aided the regular vocational skills teacher. Four brief case studies are presented to illustrate the operation of the program. Observations on the success of the program and recommendations for similar efforts are included. An appendix to the article lists the specific goals and objectives of this program.

Sarkees, M. D. An Overview of Selected Evaluation Systems for Use in Assessing the Vocational Aptitudes of Handicapped Individuals. Diagnostique, 1979, 4, pp. 42-51.

This article explores work sampling as a component of vocational evaluation through the brief review of four commercial vocational evaluation systems. (Singer, JEUS, SAVE and Tower). Other facets of the vocational evaluation process are also discussed.

Spurrier, E. A Work-Study Program for Students in a Residential School for the Blind. New Outlook for the Blind, 1968, 62, pp. 319-320.

The article explains a work-study program developed for multi-handicapped students at a state school for the blind. The twelve week program was developed to provide these students with a transition into the world of work. During the program, half the time was spent on the job and half the time in academic instruction.

Tremble, J. T., & Campbell, L. F. A Diversified Cooperative Work-Experience Program for Blind and Multiply Handicapped Blind Students. The New Outlook for the Blind, 1973, 67, pp. 216-220.

Tremble and Campbell describe their three-phase vocational preparation program. The phases include functional academics, specialty area training (career interest, aptitudes and abilities) and on the job training. One of the program's strengthens centers around staff support in the initial orientation, evaluation and contacts with job supervisors. The program also provides ancillary services of physical therapy, etc., which are necessary for the multiply handicapped students.

Uxer, J. E. Career Education and Visually Handicapped Persons: Some Issues Surrounding the State of the Art. The New Outlook for the Blind, 1973, 67, pp. 200-206.

Career education is contrasted with the specific program approaches used in implementing it. Highlights of career education planning in Texas are presented, along with an overview of the national picture. The problem plaguing the field are discussed, as are future possibilities.

Vedovatti, P. G., & Wright, C. A Work-Experience Program at the Montana School for the Deaf and Blind. The New Outlook for the Blind, 1968, 62, pp. 321-322.

The work-study program described in this article was established for non-college bound students. The entire program academic and on-the-job portion -- were individualized in order to maximize the client's success in the world of work. The authors express the need for this type of program so that blind persons can get suitable employment.

Vocational Behavior Checklist. Morgantown, WVA: West Virginia University, 1978.

This is a task-analyzed curriculum for vocational training of the handicapped and covers areas such as prevocational training, job seeking skills and on-the-job social skills. The format of the curriculum is a statement of the condition, instructional procedures, expected performance and acceptable level for performance.

Wacker, C. H. Breaking the Competitive Employment Barrier for Blind People. Journal of Rehabilitation, 1976, 42, pp. 28-31.

Wacker recounts his experiences with seven major firms in attempting to locate jobs for blind clients. The Vocational Independence Program conducted by Mr. Wacker assisted blind clients to compete with sighted workers in a sighted work world. The major barrier to employment success still seems to be people's stereotyped image of blind people and their capabilities. Mr. Wacker implies that the role of the counselor must be reworked so as not to foster this stereotyped role.

Wacker, C. H., Jr. Where Are They Now? Toward More Effective Vocational Goal-Setting for Blind Adults. The New Outlook for the Blind, 1976, 70, pp. 19-21.

Wacker uses six case studies to illustrate unrealistic goal-setting behaviors which he feels is prevalent among blind clients. The article describes a work therapy program, which is oriented toward goal setting and not goal changing -- the common process of vocational rehabilitation.

Wilson, E. L. Assessing the Readiness of Blind Persons for Vocational Placement. The New Outlook for the Blind, 1974, 68, pp. 57-60.

This article is a general discussion of clients' readiness to return to or start to work -- a checklist of areas of readiness is provided. The relationship of work to self-concept and the need for placement before completion of training is explored as a part of the setting of realistic goals for clients.

TITLE IX STATEMENT

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